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MISS MARTINEAU

AND

HER MASTER.

BY

J. STEVENSON BUSHNAN, M.D.

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ETC., ETC.

LONDON:

JOHN CHURCHILL, PRINCE'S-STREET, SOHO.

1851.

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LONDON :

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TO

THOMAS BELL, F.R.S.

NOT ONLY AS A FRIEND OF MANY YEARS,

BUT AS ONE

WHOM A RARE KNOWLEDGE OF NATURE,

ACQUIRED IN THE CLOSET AND THE FIELD,

HAS TAUGHT THAT

VERILY THERE IS A GOD

WHO CREATED AND WHO RULES THE UNIVERSE,

THE AUTHOR

INSCRIBES THE FOLLOWING PAGES.

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PREFACE.

THE work on which the following pages form a brief commentary, is entitled "Letters on the Laws of Man's Nature and Development." It consists of a correspondence between Miss Harriet Martineau and Mr. George Atkinson, in the respective characters of Pupil and Master. Of its publication Miss Martineau assumes to herself the entire responsibility. In giving to the world the views which her master has sought to impress upon her, Miss Martineau considers that she is discharging a great social duty; that she is acquitting herself of what she regards as the most positive of all obligations,—that of imparting to others what she believes

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she has discovered to be true. In charity, Miss Martineau must be absolved from anything more than facility of disposition. But, then, greater is the blame which attaches to Mr. Atkinson, who can hardly be ignorant of this infirmity in his pupil's character. It was cruel in Mr. Atkinson to choose an individual of Miss Martineau's peculiarity of mind for his victim; still more cruel was it in him, to be instrumental in placing her before the public in the odious light of an Atheist. Had he not the courage to come forth alone in that character?—Was it merely a companion that he sought, to divide the odium which he could not but foresee the work must call forth? Or, being himself unknown, did he fix upon Miss Martineau, in order that her name might buoy up a book which otherwise must have fallen still-born from the press?

It is a prevalent idea, that books which inculcate mischievous opinions should be left unnoticed,—that the less notoriety is given to

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them, the less widely will their poison be diffused. But good as this rule may generally be, it has, I think, its exceptions. Were Miss Martineau as little known to the reading public as Mr. Atkinson, their book might have been safely left to find the level of its deserts. But as Miss Martineau's mere name must have been a sufficient recommendation with some persons to buy and read the book, it seems desirable to put within their reach an antidote to its poison. This is what I have attempted in the following pages.

This age is not metaphysical in its turn of mind; and I the more regret it, because a correct mode of thinking on such momentous subjects in philosophy as God and Nature, mind and matter, without some familiarity with metaphysical language and ideas, can hardly be attained; and this neglect of metaphysical pursuits, while it lays the public more open to the poison of such false views as are taught by Mr. Atkinson, exposes the author who under-

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takes to refute them, to the charge of being obscure and unintelligible. From reproaches such as these, I do not expect to escape; but as no one more fitted for the task seemed likely to come forward, I have ventured to throw myself on the indulgence of the public, trusting that if my little book should have no other good effect, it may at least be the means of rousing some more powerful intellect to scatter to the winds the daring blasphemies to which Miss Martineau and Mr. Atkinson have ventured to give utterance.

J. S. B.

7, Nottingham-place,
Regent's Park,
June, 1851.

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MISS MARTINEAU AND HER MASTER.

I.

THE PROMISE OF A NEW ERA.

LET the sleeping world awake. Let the din of the busy crowd throughout all lands give place to silence. Let there be heard the glad-tidings of a new era:

"Magnus ab integro seclorum nascitur ordo."

The eternal "laws of matter" have at length raised up two individuals to rectify all the confusion of the moral world. The concurrence of atoms so uniformly abortive to that end, in the long ages of the past, has, in our favoured generation, happily hit the due proportion in the brains of Miss Harriet Martineau and Mr. Henry George Atkinson. They act on no commission, — they produce no authority to teach,—they claim no merit for the discovery of the astounding tenets they propound. It is the dust out of which they are sprung which speaks. The inanimate

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clay on which they tread is of the like dignity, in the order of the universe, with the material particles which, fashioned by eternal laws into their cerebral organs, now pour forth light upon an hitherto benighted world. Should we not give thanks, does some simple reader say, to a kind Providence for this manifestation of his favour to our times? By no means; that were the madness of the old superstition: for it now clearly appears "there is no God,"—in the universe there is no power; there is nothing which should be called purpose; there is nought else but eternal, immutable law.

By "eternal law" the universe is what it is;—by law suns, planets, and secondaries have arisen;—by law the mineral crust of our earth, in all its varieties of character, has been formed;—by law portions of it have passed into plants, other portions into animals;—by law, in both, the phenomena of life pursue their course, the material elements of organic structure secreting, nourishing, excreting, and performing the offices of instinct and reason;—by law the matter of the brain commits acts of cruelty and injustice, or engages in acts of benevolence and utility:—but luckily there is no sin; man has no soul, he has no responsibility, for he has no free-will;—by law he dies, and the material structure of which he is

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wholly formed is scattered to the four winds of heaven, till called by the same immutable law to enter into some new combination, organic or inorganic.

By immutable law Bacon arose; by law the particles of his brain composed the "Novum Organon," yet concealed the Atheism for which his age was not ripe; by law Mesmer was produced, the particles of his brain being so thrown together as to put forth the true philosophy of man's nature; by law Hahnemann appeared, the gray and the white matter of his brain becoming adjusted in proportions fit to discover the great law, "similia similibus curantur," and to appreciate the wonderful power of banishing diseases by doses in the ninth dilution; by law Gall sprung up with an organism that penetrated the true physiology of the brain; lastly, by law, H. G. Atkinson and Harriet Martineau came forth from the womb of Time, striking examples of the high career which some stray particles of the matter of the universe are made to run, under slight modifications of its own eternal and immutable laws. But the public must beware of expressing their admiration of these two individuals; for that would be a kind of impiety, a want of reverence towards the sovereignty of fate, their "sayings and doings" being totally independent of their own will.

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It is apparent, however, that a considerable difficulty is imposed on writers for the public by this new philosophy; they will be very liable, for some time to come, to transgress its precepts, having been, in their ignorance, so long accustomed to blame those who write stupid books, as if they were responsible agents, and to praise the authors of good readable books, as if they had some personal merit. It would be well if Mr. Atkinson and Miss Martineau would condescend to issue a set of directions, as to the mode and manner of speaking and acting on the commonest occasions of life, to make the practice of their disciples in some degree conformable to the new law of thinking. For example, it cannot be doubted that Miss Martineau has already profited sufficiently by Mr. Atkinson's instructions, to know that the man or woman who steals from her, whether it be her purse or her good name, cannot without an act of injustice on her part, incur her resentment, since it must appear that such an individual is merely acting in obedience to the eternal and immutable *fiat* of the great law of the universe. It cannot, however, surprise any one if some of her female disciples in particular find it difficult at first to bring their theory and practice to conform to this standard.

It can hardly fail to happen that some benevolent

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reader will here cry out, What a shameful misrepresentation this must be, of a book bearing Miss Martineau's name!—is it not disgraceful so to vilify an amiable woman? Alas! Miss Martineau deserves our pity; but being found, like the stork in the fable, in bad company, she cannot escape altogether unharmed. It is to be hoped she may still be reclaimed, and brought back at least to that state in which she was when she could "read Milton with scarcely any recoil from the theology, or Paley's 'Natural Theology' with pleasure, at the ingenuity of the mechanic-god he thought he was recommending to the admiration of his readers." P. 217. As for Mr. Atkinson, we despair of him. It is to be feared he answers to the character of one who may be brayed in a mortar without losing his folly. In the meantime the reader may rest assured that the work itself, from which the above few particulars are drawn, far outstrips the sample produced.

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II.

DETACHED GLIMPSES OF THE NEW PHILOSOPHY.

MR. ATKINSON, notwithstanding he avows himself an Atheist in the strictest sense of the word, is blessed with an abundant faith. This appears from the following passage: "I do not say that there is no God: but that it is extravagant and irreverent to imagine that cause a person." P. 240. Nevertheless, extremes meeting, he is a believer in the pseudo-sciences of Phrenology, Mesmerism, and Homœopathy. The subjoined passages indicate the extent of his heterodoxy in science: "What men are for the most part believing now is a kind of insanity." P. 6. "All the systems of the world are wrong." P. 9. "We must exhibit the real fundamental and material causes of men's thoughts, and out of a knowledge of human nature will grow a wisdom and a revelation of principle which will revolutionize the world, and become the guide of man in legislation and education." P. 10. Miss Martineau says, in answer to this: "I doubt if I have ever met with any one but yourself, who was perfectly free from such a leaning as makes it all over with a man for a philosopher." On another

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occasion Miss Martineau takes alarm, owing to her instructor having spoken inadvertently of God in one of his letters. He had said: "Ignorance conceives its will to be free;—a strange arrogance, if it could see it. Knowledge recognises universal law, and that nothing can be free or by chance,—no, not even God! but that God is the substance of law, and origin of all things." P. 141. In her next letter, Miss Martineau, says: "Pray tell me, too, whether in this last letter, you do not, in speaking of God, use merely another name for law? We know nothing," she continues, "beyond law,—Do we? And when you speak of God as the origin of all things, what is it that you mean? Do we know anything of origin?—that it is possible. Is it conceivable to you that there was ever nothing, and that something came out of it? I know how we get out of our depth in speaking of these things; but I should like to be aware *where exactly you think our knowledge stops.*" P. 164. Mr. Atkinson does not, in his subsequent letters, acknowledge any inadvertency in his use of the word God, on that occasion; whence we might reasonably infer, that it is only when he puts on the character of a philosopher that he is an Atheist, and that, within the circle of his own thoughts, he believes like the world in general. A parallel to such a case may be found in the "Spectator," where a person is spoken

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of who, though accustomed daily to boast himself an Atheist, in all the coffee-houses around his neighbourhood, was yet proved to say his prayers, night and morning, like a good Christian. In the next letter, however, it must be confessed, Mr. Atkinson, though he does not refer to or account for the slip in question, rides his hobby with increased vigour. "Philosophy," he says, "finds no God in Nature; no personal being or Creator, nor sees the want of any: nor has a God revealed himself miraculously; for the idea is in the mind of most savage nations, because, under like influences, like effects will occur." P. 173. Miss Martineau is well content with this remote reference to the subject of her difficulty, and does not press for any further explanation of the origin of the slip he had made in the use of the word God. She says, "I am glad I asked you in what sense you used the words 'God, origin, etc.;' for your reply comes to me like a piece of refreshing sympathy,—as rare as it is refreshing." She adds: "There is no theory of a God, of an author of nature, of an origin of the universe, which is not utterly repugnant to my faculties; which is not to my feelings so irreverent as to make me blush; so misleading as to make me mourn. I can now hardly believe that it was I who once read Milton with scarcely any recoil from the theology; or

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'Paley's Theology' with pleasure at the ingenuity of the mechanic-god he thought he was recommending to the admiration of his readers." P. 217. In the same letter she says: "I look back with a kind of horror, as well as deep pity, on myself, in the days when I thought it my duty to cultivate (against nature) an anxious solicitude about my own 'salvation,' my own spiritual welfare. I should now think this as bad as engrossing myself with storing up means of prosperity while my brother had need. How sweet it is to be loose from all such solicitude, and to let our best nature have its free play from hour to hour." P. 222.

It may be remarked that Miss Martineau spells God, in one of the above passages, with a small initial *g*. It may be, that the Printer's Devil has done this for her; but, be that as it may, on noticing the little *g*, we were forcibly reminded of an old lady's prediction, recorded about the middle of the last century, that she was sure her grandchild would turn out an Atheist, as he could not be prevented from writing God with a little *g*; and as Miss Martineau is particularly full, in some of these letters, of anecdotes of her childhood, we could have wished that she had told us whether this or any similar omen of her future scepticism occurred in her early years. On some few of these anecdotes of her childhood, it might not be unpro-

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to which she refers is thus recorded: "I had not Wordsworth's good fortune to smell a flower. I was not well that day;—sat down to lunch with a family who were dining early on a leg of mutton. At the first mouthful of mutton I poured out water hastily and drank,—so prodigious, so strong, and so exquisite was the flavour. I went on eating with amazement and extraordinary relish; but I was obliged to take water after every mouthful. It occurred to me to try if I could smell. There was a bottle of Eau de Cologne on the mantelpiece. At first I could make nothing of it; but after heating it I could smell it, not in the nose at all, but a little way down the throat. It must have been really the scent, for it was no more like the sensation from taste than from colour or sound." P. 122.

Now there is a point of view in which it would be desirable that Miss Martineau should look at her own case. Mr. Atkinson is her evil genius; he has suggested to her bewildered brain certain crude and distorted ideas on subjects of the very last importance. To certain minds, owing, as it would seem, to peculiarity of structure, such ideas have a charm partly in virtue of their very crudeness. They gain a footing when the natural antidotes to their poison have not previously become developed in their thoughts; and these

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antidotes are the growth and maturity of just ideas of the effects produced on persons of sound and healthy intellect, by the contemplation of the phenomena of physical nature and the reflection on the operations of the mind itself during that contemplation. But Miss Martineau should not take it amiss, if it be called to her attention, that notwithstanding the reputation which her intellectual character has gained for her in the world, a suspicion arises, from the circumstances just stated in her own words, that there are some points in that character still defective, still requiring evolution to bring them up to the ordinary standard of apprehension in regard to some classes of ideas. She will readily understand that these defects, if they exist, are not to be remedied by any further instructions from Mr. Atkinson.

But to return from this digression:—in a subsequent letter Mr. A. re-echoes Miss Martineau's sentiment as to "a mechanic-god." He says, "I cannot believe in a manufacturing God, as implied in the idea of a Creator and a creation, nor can I believe in any beginning or end to operations of nature; * * * the mind of man, the instincts of animals, the sympathies, so to speak, of plants, and the properties of stones, are the result of material development." P. 241. In another letter he says,

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"And what are the instincts of animals and the mind of man, but a result of chemical action or material process?" P. 257. "Philosophy," Mr. Atkinson says, "is the observation of effects in relation to causes in order to the discovery of the laws concerned," p. 20; in another passage, "men are taught to believe they could not have existed as a consequence of nature, and as nature; but that they were created by a being resembling themselves, who is at the same time incomprehensible; that all nature is a fabric made out of nothing; but that this wondrous Being—the First Cause—is himself without a cause or beginning. They are to consider it necessary that man should have a maker, but the demand of causality is to rest there." P. 205. "Fitness in art," he elsewhere says, "argues design; but in nature only points to a law; to the form and nature of that which is, and of which design is an inter-reflexion. Absolute free-will and creative power are a downright impossibility." P. 229. These quotations may be summed up with the following: "Many seem to think there is something noble in the belief of a future, and of a retribution; and of a Father in heaven, or a personal deity; and cannot conceive of the unselfish sublimity of a more philosophical view of things. But what can be more impressive than the idea of the infinite and the eternal omni-

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present law and principle of nature, that man is of the dust; and that, consequently, every grain of dust contains the latent principle of human nature, and of instincts and powers perhaps higher than mind has yet conceived of, and infinite to our conceptions? What more noble and glorious than a calm and joyful indifference about self and the future, in merging the individual in the general good—the general good in universal nature." P. 189.

III.

SUMMARY OF DOGMAS.

ENOUGH has been cited from the work under review to show the general tendency of the opinions inculcated by Miss Martineau and her master. But, owing to the desultory manner in which these opinions are brought out in the work itself, it will be necessary, before entering on their more particular consideration, to condense them, or the chief of them, under a short summary. The following view presents the principal features of Mr. Atkinson's scheme:

That the matter which exists in space has had no beginning, and is to have no end; that it exists

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from eternity to eternity; that the arrangements of the universe, in all their gigantic extent, are the result of the laws of nature; that there is no design and no chance in the order of things; that plants and animals, at particular epochs, arise spontaneously, and continue for a time to exhibit the phenomena peculiar to the organised departments of nature in obedience to certain fixed laws of matter; that mind is the action of the brain; that there is no God, no hereafter for man, no liberty of action, no sin, no responsibility; that phrenology and mesmerism afford the means by which one man may study the phenomena of another's mind, as a part of nature; that distance does not prevent one man from seeing what passes in another's mind; that there is ground of hope for the improvement of the moral world in the fear inspired by mesmerism, that the inmost thoughts of any individual may be at any time subjected to the scrutiny of another; lastly, that the foretelling of future events is a power which exists in nature.

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IV.

KIND OF ARGUMENT USED.

THE next step is to examine the kind of evidence and reasonings by which these dogmas are supported. There is no distinct attempt to maintain each of these views separately; — they are all jumbled together, so as to render very troublesome the task of following what little argument is adduced for each. To compensate for the paucity of logical argument, there is a great deal of self-sufficiency, of mutual adulation, of random assumption, and much citation of unconnected passages from Lord Bacon.

Miss Martineau says, she knows that Mr. Atkinson's opinions proceed on some basis of real science, and that that is the reason why she takes so much interest in them; adding, "I want to know precisely what your scientific basis is, instead of merely profiting by your having one, and having a general notion how you came by it." P. 1. In answer, Mr. Atkinson says, with unaccustomed modesty, "The reason why you are interested in my thoughts and opinions is, not that I have more

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ability than others, but that I have endeavoured, under favourable circumstances, to renounce all idols and superstitions, and have drawn close to nature to examine into causes. * * * I have followed Bacon's method, because there is no other that can lead to any discovery and practical results, or represent nature." P. 8. Let not the reader forget that the gentleman who professes to have renounced all idols and superstitions, claims for himself, unless he be misapprehended, the discovery of phrenomesmerism, the most impudent delusion ever attempted to be imposed on mankind; and that the idol which he sets up, instead of the eye of God, moral responsibility, and judgment to come, is clairvoyance! "The knowledge which mesmerism gives of the influence of body on body, and, consequently, of mind on mind, will bring about a morality of which we have not yet dreamed. And who shall disguise his nature and his acts when we cannot be sure, at any moment, that we are free from the clairvoyant eye of some one who is observing our actions and most secret thoughts, and our whole character and history may be read off at any moment. Few have the faintest idea of the influence these great truths will have upon the morals of men, and upon our notions generally. Yes, there are indeed more truths in heaven and earth than are 'told' of in

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our philosophy." P. 281. Other proofs of the extent to which Mr. Atkinson has renounced all idols and all superstitions will appear in the sequel.

To defend all that Lord Bacon has written is no part of our present purpose. In the writings of an author who has written, not so much on what had been already done, as on the method by which more might be accomplished, it would be surprising if there were not some passages which might be so perverted as to be misapplied in support of almost any description of vague and unfounded opinions. This Mr. Atkinson seems to have fully perceived. Bacon is ever in his mouth; but we look in vain for references to the authority of those inquirers of our own time who have interpreted Bacon himself by the light which the actual progress of discovery, but dimly foreseen by that great philosopher, has thrown on the genuine philosophy of science. It is no more than justice to Bacon to protest against detached passages being taken from his works to prove him to have entertained opinions which he expressly disclaims. To such of the readers of "the Laws of Man's Nature and Development" as are little acquainted with the pious spirit of Bacon, it will be a subject of some surprise to find, that he whose name appears so uniformly in its pages as lending the force of his

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authority to the atheistical sentiments of the authors, introduces one of his latest works with the following prayer—one part of the prayer is, however, in an earlier work:

"To God the Father, God the Word, God the Spirit, we pour forth most humble and hearty supplications; that he, remembering the calamities of mankind, and the pilgrimage of this our life, in which we wear out days few and evil, would please to open to us new refreshments out of the fountains of his goodness for the alleviating of our miseries. This also we humbly and earnestly beg, that human things may not prejudice such as are divine; neither that, from the unlocking of the gates of sense, and the kindling of greater natural light, anything of incredulity, or intellectual night, may arise in our minds towards divine mysteries. But rather that by our mind, thoroughly cleansed and purged from fancy and vanities, and yet subject and perfectly given up to the Divine oracles, there may be given unto faith the things that are faith's.

"Thou, O Father, who gavest the visible light as the first-born of thy creatures, and didst pour into man the intellectual light as the top and consummation of thy workmanship, be pleased to protect and govern this work, which, coming from thy goodness, returneth to thy glory. Thou, after

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thou hadst reviewed the works which thy hands had made, beheldest that everything was very good, and thou didst rest with complacency in them. But man, reflecting on the works which he had made, saw that all was vanity and vexation of spirit, and could by no means acquiesce in them. Wherefore, if we labour in thy works with the sweat of our brows, thou wilt make us partakers of thy vision and thy sabbath. We humbly beg that this mind may be stedfastly in us; and that thou, by our hands, and also by the hands of others on whom thou shalt bestow the same spirit, wilt please to convey a largess of new alms to thy family of mankind. These things we commend to thy everlasting love, by our Jesus, thy Christ, God with us. Amen."

But it is not with Lord Bacon, but with Mr. Atkinson that we have to deal.

V.

THE STANDARD OF TRUTH IN THE MIND OF MAN.

Such dogmas as those entertained by Mr. Atkinson derive a certain plausibility from the artifice of pointing out the difficulties attendant on the belief

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of the opposite view, while the real state of the case is, that these difficulties are of a general kind, and such as necessarily accompany our conclusions on nearly all the subjects of human knowledge. Thus Mr. Atkinson tacitly assumes, that there is no difficulty in the belief of the evidence on which the laws of nature are considered to be established. The most undoubted of these laws simply rest on grounds which satisfy the human mind of their truth. Hence it follows, that whatever satisfies the human mind of its truth, though it be not a law of nature, carries with it proof as strong as that in support of the laws of nature. The immediate evidence of the laws of nature (to omit the ultimate for the present) is observation, experience, the exercise of sense, with or without the aid of instruments and calculation. The evidence of many of the truths which do not, by common acceptation, fall under the head of laws of nature, reposes on intuitive belief without observation. Thus men believe intuitively in an external world, and in their own identity throughout life; also that two and two make four; that every event has a cause; that there is an exercise of power whenever an event takes place. And unless they did trust in these and the like primary representations of their own minds, as Reid and Dugald Stewart have clearly demonstrated, there

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would be no room or foundation for the data on which we conceive the laws of nature to be established.

It is then to be distinctly understood, that the standard of truth in human inquiries is not merely what our observation of external things through the senses determines, but whatever the mind in its sound state rests satisfied with. There are truths which have a higher evidence than that of sense, because they are free from many of the imperfections of sense, and because it is through them that sense finally becomes so efficient an instrument in prosecuting the study of external nature. In the first place, then, there are necessary truths which the mind adopts without any aid from observation or experience; and of these there are two kinds, namely, intuitive necessary truths, and necessary truths not intuitive in themselves, but established by reasoning back to intuitive necessary truths. Of the former description are personal identity, and such propositions as that two and two make four, and that the whole is greater than its part; of the latter description we have an example in the proposition that the square of the hypothenuse of a right-angled triangle is equal to the sum of the squares of the two sides, and in all other mathematical truths that are not at once apparent. And, in the next place, there are what may be called

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natural truths, namely, truths as strongly impressed on the mind as necessary truths, yet differing from these in the important point that their opposites, or a greater or less deviation from them, does not involve a contradiction, as in the case of necessary truths. Of these natural truths there are also two kinds, namely, intuitive natural truths, and natural truths not intuitive, but obtained by reasoning back to intuitive natural truths. Of the former description are the belief in an external world and in the free agency of self; the feeling that every event has a cause, and that there is an exercise of power whenever an event takes place. And of the second description, namely, natural truths obtained by reasoning back to intuitive natural truths, one arrived at by reasoning back to the two intuitive natural truths, —that every event has a cause, and that there is an exercise of power whenever an event takes place,—is the belief in the existence of an omnipotent cause.

These intuitive and natural truths are of a far more exact and perfect character than any knowledge which has, as yet, been obtained of the laws of nature. It may, indeed, be truly affirmed, that it is only in those cases of phenomena to which these natural and necessary truths, the fruits solely of the human understand-

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ing, independently of the observation and experience of outward things, can be exactly applied, that anything like a great and comprehensive law of nature has been brought to light. Observation and experience are necessary to collect facts as to the properties of bodies, and the simple relations of body to body; but if a law is to be attained which, in one expression, shall include many phenomena, it is by the reach of the human intellect and the means provided by its peculiar resources, altogether unknown elsewhere in the animal kingdom, that such a step is to be accomplished. Here it may be remarked, that superficial observers, after such a law has been discovered, and the expression for it has become common, confining their attention to that expression, which never refers to the acts of intellect concerned in the discovery, but only to the operation as it occurs in nature independently of man, are apt to think and speak as if nothing more were required for such a step in science than the mere exercise of the senses. If we follow Mr. Atkinson and other speculators of the same stamp, we should be led to conceive, that the discovery of a great principle in the economy of nature, implies hardly a more profound exercise of psychological power than an animal of the feline tribe exerts when it measures, with its whiskers, the

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size of an aperture through which its body may pass. But if, for example, we trace out the nature of the many steps of progress which preceded that mighty effort of human genius by which Newton, as by a flash of inspiration, saw that the earth is a part of the heavens, and turn our thoughts to the character of that store of truths previously accumulated, which he at once employed to establish that idea of universal gravitation as soon as it arose on his mind, we shall gain some insight into the extent to which man's intellect contributes by its own internal resources, beyond mere acts of observation through the senses, towards the first perception of the operation of such a law. And, at the same time, it will appear how necessary it is for the maintenance of such a view as Mr. Atkinson entertains when he represents the profoundest thoughts of man as the mere reaction of the material particles of the brain, that such acts of intellect as a Newton employed in his discoveries should be confounded in character, first with the faint mental efforts of the lower animals, and then with the commonest physical acts, such as the conversion of water into steam, or the combustion of a piece of coal.

The laws of Nature, properly so called, are not necessary truths. There is a necessary connection between cause and effect in a logical sense, but

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not in nature. The meaning of which is, that any two things which, in the actual system of nature, stand to each other in the relation of cause and effect, can be conceived to lose that relation. In short, there is not any law of nature, the idea of the abrogation of which cannot be entertained by the human mind without any sense of contradiction by the change. The laws of motion are accounted by some necessary truths, — but on examination, it will be found that it is only the general expression from which these are deduced that involves necessary truths; for their actual application to natural phenomena experience is essential. If the laws of nature were necessary truths, that is, if there were a necessary connection between the causes and the effects in the existing phenomena of the physical world, there would be no need of experience in science — the laws of nature, in such circumstances, could be deduced from principles within the reach of a mere intellectual operation. And the opposite idea seems to have been the error of the authors of the ancient systems of philosophy, which led them to attempt to penetrate the economy of nature by means of great primary conceptions of their own minds.

Under the head of the standard of truth in the mind of man, in such a discussion as the present,

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it is proper steadily to insist on the relation which reasoning holds to the establishment of truth. Pseudo-philosophy has often attempted, by the help of subtile arguments, to throw off the force of truths indelibly impressed on the human mind by the very nature of man's mental constitution. The fallacy in all such attempts is the secret, the unintentional assumption, that mere logic involves truth—that truth can be as it were extricated and developed out of the forms of logic. But logic, which is made up of the mere forms of thought and language, by which the agreement or disagreement of hitherto unexamined ideas with man's intuitive principles of belief is tested, plainly cannot create truth. Proofs and arguments are necessary only when the mind cannot see a thing intuitively. Whatever is seen intuitively can be but weakened by any kind of reasoning. Again, the different degrees of evidence create a confusion in the mind. A conclusion from reasoning cannot have a higher or another kind of force than the principles with which it is made to agree. Nothing is entitled to the name of truth by demonstration, except what ultimately rests on intuitive principles of the like form. But when logic is required to propound the agreement, if so it be that such exists, between any complex proposition and an intuitive principle, then there is the risk of

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mere error of construction,—of what may be called mechanical error,—so that the force of such a demonstration is not complete till the impossibility of such error be shown. Every one sees intuitively that two and two make four. All mathematical demonstrations rest on the same kind of intuitive principle. The complexity of the steps by which many such demonstrations are brought out weakens the force of the conclusion, yet in no other respect whatever, than by the risk of what was called above mechanical error—which bears a proportion to the complexity of the whole process. The numerous steps of a mathematical demonstration, and the subordinate demonstrations on which these several steps depend, have no power to create or increase a force on the ultimate truth —that truth lies in the connection which the labour expended has made to appear between the original proposition and certain intuitive modes of belief in the human mind. Thus reasoning does not discover truth—it merely shows forth truths which have been already discovered. The mathematician reaches truths sometimes in one way, sometimes in another, but there is no essential connection between his discovery of a truth, and the reasoning by which he establishes the same to the satisfaction of his brethren. He may satisfy himself of its truth by one mode of reasoning, and

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his brethren by a wholly different method. But if it be a demonstrative discovery, it must finally rest on intuitive necessary truths, like the proposition that two and two make four. The force of the truth that two and two make four cannot be increased by argument or reasoning. Yet its force may be weakened in some minds by attempts at reasoning. Thus, if it be said that two and two must make four alike in the eyes of men, and in the eye of God—some pious person may reply that, as everything is possible to God, it cannot be affirmed that he cannot make two and two five. Such a person is deficient in the logical mind—everything is possible to God except what involves a contradiction. And, in like manner, such truths as are intuitive, but not necessary truths, as that there is an external world, that man's identity continues throughout life, that the operations of nature imply the existence of adequate power to produce them, can derive no new force from argument or reasoning. These truths, however, may be weakened in their force on some minds by erroneous reasonings upon them, like those employed by Mr. Atkinson and Miss Martineau. The attempt to support intuitive truths by reasoning is chiefly mischievous, because, when the reasoning is afterwards shown to be defective, the truth itself, which really stood in no need of any such support,

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is apt to be thoughtlessly impugned and cast away. This is the source of the sceptical opinions as to the existence of an external world; and the same is the source, in a great measure, of the principle of atheism, which we are now combating.

VI.

THE LIMITS WITHIN WHICH MAN CAN CONTEMPLATE THE UNIVERSE.

When Mr. Atkinson, and others who think like him, assert that the matter which exists in space had no beginning, and is to have no end, they do not attempt to satisfy any standard of truth with which the human mind is conversant. The universe consists of matter in a perpetual state of change; so that, throwing aside the plainly inherent desire of man's nature to rest on a cause or exercise of power whenever a change is observed, they pronounce that all the changes which make up the movements and actions of the matter of the universe, whether of masses relatively to masses, or of particles relatively to particles in the internal structure of masses, take place from eternity to eternity absolutely without the operation of any

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single cause. They do not say merely that human reason cannot discover the operation of any one cause in the universe; they maintain, in so many words, that it is impossible that a cause can exist. It is true, Mr. Atkinson not unfrequently uses the word cause, though in what sense we cannot at present pause to inquire;—of that, however, hereafter. When he and his friends declare, that "absolute free-will and creative power are a downright impossibility," they thereby assume that man is capable of judging, not of the whole scheme,—for so familiar a word as scheme can have no place in their vocabulary,—but of the aspect under which the universe would appear to a being of infinite intelligence; or, if the word infinite offend them, to a being of sufficient intellectual capacity to apprehend the relations of the finite to the infinite in space and time. If, according to Mr. Atkinson's own views, man, with a power so immeasurably beyond that of his fellow animals to perceive the order of nature, though he cannot reach the idea of what is infinite, has sprung up from the mere concurrence of atoms under the eternal laws of the universe, he cannot, we say, on his own principles, deny the possibility that, under analogous laws and out of corresponding materials, a being may have been, or may hereafter be formed, so far transcending man, as to apprehend the real import of the infinite

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in space and time. Such a being might have no greater powers of sense than man, but merely a capacity to originate ideas which should mould the observations of sense on a higher and more perfect type. If, then, this being saw the whole signification of eternity, and if we suppose that he at the same time felt that what we call the laws of nature are necessary truths, like the truths of number and quantity, he would possess a title, which Mr. Atkinson takes without a right, to infer conclusions different from what the more limited faculties of man warrant him to draw. Let us consider, then, on what conditions such a being would be entitled to pronounce in favour of atheism. Not feeling shut up, like man, to a mere negative idea of eternity and of the infinite in space, but possessing positive ideas of both, he would not find his thoughts repelled and thrust back into their own littleness, as by the barrier which instantly starts up when man attempts to conceive the eternity of matter in infinite space. There is only one condition, however, on which to such a being atheism would be a thing of certainty; namely, if the positive idea of the infinite in space and time, whatever that may be, should be found incompatible with the notion of an omnipotent personal unity. This, then, is the real extent of the assumption which Mr. Atkinson, and those who

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think like him, are guilty of making. We have assumed that such a being might discover that the laws of nature are necessary truths, like the truths of number and quantity; but it does not conclusively follow from such a discovery, that the First Cause is unintelligent and acts by necessity. All the laws of nature, even including organic nature, would be necessary truths to the mind of man, if they were all merely portions of one or more universal laws which his mind is capable of apprehending; that is, of a law or laws rendered of necessity by the very constitution of matter. But when it is hastily concluded from such an admission that there is no God, it is forgotten that there is the unwarrantable assumption in the reasoning that matter cannot be annihilated and its necessary laws destroyed by an omnipotent intelligence. There is besides a far greater probability that a being endowed with the higher intelligence supposed, would discover that many of the essential laws of nature are not dependent on the mere existence of matter, but are connected with endowments more or less temporary, such as we see in the variations of aggregation and chemical affinity, and in the phenomena of electric and magnetic attractions. And there is not less reason to suppose, that instead of finding the positive idea of infinity in space and time adverse to the notion

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of an intelligent First Cause, he would thence acquire an irresistible conviction of its truth.

It is manifest, then, that unless man could acquire a positive, instead of a mere negative notion of eternity, and of the infinite in space; and unless it were found that the positive notion of both is incompatible with the idea of an intelligent First Cause, atheism could not acquire that certainty which Mr. Atkinson represents it as possessing. Again: it is plain that the admission might be made, were it requisite, that the laws of nature are necessary truths without the inference following, that there is no intelligent First Cause, because that inference involves the assumption, that matter cannot be annihilated, which is a *petitio principii*.

The younger reader will bear in mind, that either of the two propositions, namely, that matter is eternal, or that the First Cause has no personality, is identical with the denial of God. For, matter cannot be eternal without usurping the office which belongs to God; and a First Cause without personality is merely an expression for a supposed all-pervading law of matter.

If Mr. Atkinson should ask, what better right is claimed to assume (the term, doubtless, which he would employ) — the existence of an infinite personal First Cause, than he has to assume the

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existence of matter from eternity,—our answer is, that his assumption fails to satisfy the natural craving of the mind of man, to rest on an exercise of power, when changes upon matter are seen to take place like those which make up the unceasing phenomena of the universe,—like those, in short, which constitute the whole extent of man's idea of the universe. In the universe, every particle of matter is in perpetual activity,—nothing is at rest, —all is movement or action of masses and atoms, and the mind of man is under a natural, an inherent compulsion, to ascribe the most minute and insignificant of those unceasing changes to a cause—to a cause which implies the exertion of power —and, therefore, when he views the aggregate of the changes constituting the phenomena of the universe, at any one moment, he must, by the same necessity of his nature, refer them to an aggregate of causes implying the exercise of an aggregate of powers, which powers, by an easy process of thought, he generalizes into a unity of power. But Mr. Atkinson will say, that what he teaches is the same as this, with only a verbal difference, and that such a unity of power is merely what he would call the great primary law. But we shall find that the mind is not satisfied with law in lieu of power—and that, in this case, it will not repose upon any power short of a con-

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scious personal agency. Neither in the assumption, so to speak, of an infinite personal Cause, is it to be objected, as in the case of the assumption of the eternity of matter, that a positive idea of the infinite in time and space is so involved as to vitiate the conclusion. For, it is an admitted axiom in the study of nature,—one which has formed an essential part in all the great steps in the progress of the inductive sciences,—"that causes are rightly measured by their effects." But if the universe be allowed to be infinite in extent, and therefore to be infinite in the number of its constituent phenomena, which require the exertion of a power for their production, that power is correctly declared to be infinite, even though no positive idea of the infinite is known, because to be adequate, when the effects by which it is measured are infinite, the cause cannot be less than infinite.

VII.

CAUSE AND POWER.

Mr. Atkinson has nowhere explained the exact sense in which he understands the word cause. He speaks of "Philosophy being the observation of

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effects in relation to causes, in order to the discovery of the laws concerned. The results," he continues "of the imperfect method, are such as were our perceptions of light and colours before there was a science of optics; that is, previous to the tracing of the phenomena to their natural causes; when the rainbow was thought to be a mystic sign in the heavens. The observation of mind is now at this stage of progress. It appears to thousands, what the rainbow was supposed to be a few years back; a thing out of the ordinary course of nature—having a supernatural cause and a special end. But we are now aware, that the rainbow phenomenon is a necessary consequence of the laws of light which operate universally. I feel almost ashamed to offer illustrations of what seems to be such simple and clear matter of fact; but it is necessary to my subject, though not, perhaps, for you." P. 20.

In Miss Martineau's answer to the letter in which the passage just quoted is contained, there may be read as follows: "I hope to obtain much more satisfaction from you than I have ever got from all the metaphysicians I have read. As you say, they have regarded only effects, and the relation of those effects to each other, while the effects themselves can hardly appear alike to any two observers; and that the true philosophy that we

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want, is the relation of these effects to their causes: an investigation which can never be made, while men take for granted that the real agent is, in each of us, an intangible mind or spirit, whose nature and qualities are not knowable. It is really wearisome to read theories by the score, all unsupported by anything that can be called evidence, and descriptions and so-called analyses of faculties, whose nature and origin are not even looked for, and whose management and control cannot, therefore, be provided for. You will teach me better." P. 28. The following passage from one of Mr. Atkinson's letters also refers somewhat enigmatically to cause and casuality: "Men are taught to believe that they could not have existed as a consequence of nature, and as nature; but that they were created by a Being resembling themselves, who is at the same time incomprehensible; that all nature is a fabric made out of nothing; but that this wondrous Being — the First Cause — is himself without a cause or beginning. They are to consider it necessary that man should have a Maker, but that the demand of causality is to rest there. When each was a child, he was told that he came in the doctor's pocket, and that he must ask no more questions. He is now told that he is brought out of nothing by the great Physician, and that it is wicked to inquire further. A lesser

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difficulty is thus solved only by a greater difficulty of the same nature; or rather, it is thus that a difficulty, which does not exist, is invented and solved." P. 205.

It cannot be said that our authors have, in these passages, afforded us any distinct insight into the ideas which they attach to the term cause. And this naturally enough surprises us, since opinions, like those Mr. Atkinson teaches his pupil, have usually been connected with some definite heterodoxy as to the sense in which the term cause is understood. Mr. Atkinson says at the commencement of the last quotation, that laws are discovered by the observation of causes; it is more consonant, we think, with the character of inductive science, to say that the study of the laws of nature leads to the knowledge of the cause of the phenomena. But it would be a waste of time to dwell on such a point as this. We may judge from the general tenor of his views, that as Miss Martineau concluded when he spoke of God that he intended to say law, so we may interpret cause as often as it occurs to signify law also. It cannot be discovered whether Mr. Atkinson has tried to study the doctrine of cause in the pages of Hume, Brown, and Kant—but one thing seems clear, that cause in his idea is simply the expression of a general fact, into which no notion of the exertion of power enters—

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as if he were asked, "Why does a ship float?" his answer would be, for no other cause than because it is built of wood — that, however, is plainly a reason, not a cause; as merely referring a ship to a genus of substances which usually float in water. It would be more difficult for him to give an answer, if one looking on the alternate rise and fall of the piston of a steam-engine were to ask what is the cause of the perpendicular motion of that piston; we do not see how Mr. Atkinson could avoid finally saying that the concurrence of certain atoms in the brain of James Watt, under the eternal laws of matter, gave rise to the idea that the expansion and condensation of steam alternately on the upper and under surfaces of a piston, would prove an effectual source of its perpendicular motion; — the world at large do not refer to the eternal laws of matter, but consider the steam-engine as an instrument of power invented by an intelligent being, and not the result of a blind self-acting law, adjusting, without any design, the parts of the machinery.

Dr. Thomas Brown, following David Hume, in certain points at least, taught that the idea of cause is always capable of being resolved into a constant sequence, guarding the doctrine by the addition of the maxim that it is an instinctive law of belief, or a fundamental principle of the

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human mind, that every event must have a cause. Mr. Atkinson's view is probably drawn from Brown's, though he makes no mention here of the axiom that every event must have a cause. But Brown's doctrine requires to be further guarded to render it conformable to the natural suggestions of the human mind. It is quite true that nothing can be discovered in the events themselves, which stand in the relation of cause and effect, except invariable sequence. But, nevertheless, it is a mistake to say that nothing occupies the mind when it contemplates the events of physical nature, said to stand to each other in the connection of cause and effect, but the mere relation of invariable antecedence and consequence. It is quite certain—it is a fact easily discovered by reflection—that, in every such case, there is the accompanying idea of the exertion of power awakened in the mind. In short, it is as sure as anything known of the operations of the mind that, by the constitution of man's nature, he cannot see two events occur in that kind of succession which falls under the head of cause and effect, without an intuitive feeling that an exertion of power has taken place. On this point every man may be his own authority. It will be worth while, on a topic so directly opposed to the dogmas of our authors, to listen to the sentiments of one whose

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long familiarity with the great operations of physical nature renders his evidence entitled to the highest consideration. Sir John Herschel says, "Whatever attempts may have been made by metaphysical writers to reason away the connection of cause and effect, and fritter it down into the unsatisfactory relation of habitual sequence, it is certain that the conception of some more real and intimate connection is quite as strongly impressed upon the human mind as that of the existence of an external world, the vindication of whose reality has (strange to say) been regarded as an achievement of no common merit in the annals of this branch of philosophy. It is our own immediate consciousness of *effort*, when we exert force to put matter in motion, or to oppose and neutralize force, which gives us this internal conviction of power and causation, so far as it refers to the material world, and compels us to believe, that whenever we see material objects put in motion from a state of rest, or deflected from their rectilinear paths, and changed in their velocities if already in motion, it is in consequence of such an EFFORT, somehow exerted, though not accompanied with *our* consciousness. That such an effort should be exerted with success through an interposed space, is no more difficult to conceive, than that our hand should communicate motion to

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a stone with which it is *demonstrably not* in contact." ("A Treatise on Astronomy." Pp. 232-3.) In a note on this passage, Sir John says, "See 'Brown on Cause and Effect,' a work of great acuteness and subtlety of reasoning on some points, but in which the whole train of argument is vitiated by one enormous oversight; the omission, namely, of a distinct and immediate personal consciousness of causation in his enumeration of that *sequence of events*, by which the volition of the mind is made to terminate in the motion of material objects. I mean the consciousness of *effort* as a thing entirely distinct from mere *desire* or *volition* on the one hand, and from mere spasmodic contraction of muscles on the other." (Note, p. 232.) Dr. Alison, moreover, has shown that Dr. Brown himself has admitted, in other parts of his works, that the notion of power arises under the connection of cause and effect. Thus in speculating on what would have been the effect, "if the generations of mankind could have existed in a world of darkness, and then the sun had arisen suddenly on the earth," he says "it would have been sufficient to show that there is a Power *which can create*." "The sudden appearance of the sun would have indicated power of some sort," and again, "after a few successions of days and nights, its regularity would *add* to the previous conception of power,

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some conception of corresponding *order*." (Lecture 92.) "This passage," Alison says, "and others to the same purpose, sufficiently demonstrate that the conception of *sudden and striking change* was sufficient to introduce the idea of power, exactly as commonly understood, even to a mind that had denied the possibility of its introduction in that way." (Alison's "Outlines of Physiology." P. 325.) If, as Herschel says, the notion of the exercise of power as certainly attend the perception of two events, standing in the relation of cause and effect, as the notion of the external attends a sensation whose source is not within the body; surely this notion of the exercise of power, on such an occasion, must be regarded as a part of our human constitution—as a something which it is contrary to our nature to shake off. Of what avail is it that no other connection can be discovered between the cause and the effect but that of invariable succession of the latter to the former, if the human mind be so framed that the notion of the exercise of power uniformly attends the perception of this relation. If this be the case, even after philosophy has taught that there is nothing discoverable in physical nature to represent the exercise of that power, it must be concluded that this attendant notion is among the inseparable necessities of our mental constitution.

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Man is by nature a cause-seeking animal—this cause-seeking desire is one of the active principles inherent in the human mind — one of the chief characteristics of his intellectual position in the animal kingdom—and the cause which he seeks is not the mere reference of a phenomenon, as a species of change, to a genus of change—what he seeks is uniformly an active power; and when philosophy teaches him that such an active power is not to be discovered by visible signs in each operation of nature, but that each operation is in general referable to a genus, order, or class of like changes expressed in one word as a principle or comprehensive cause, then he goes on, *pari passu*, generalizing the power, till he comes to ask nature for a power adequate to command the existence and operation of that principle — and this adequate power he at last finds must be an omnipotent Intelligence.

Man, therefore, believes in the existence of God by a necessity of his mental constitution. He cannot throw off this belief any more than he can throw off his belief in his own existence, or in the existence of an external world. Both rest on the same kind of evidence. Philosophers have striven to set aside both by the help of confusing arguments—but of these attempts we truly say in the words of the ancient adage,

"Naturam furca expellas tamen usque recurret."

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While, then, we proceed to the consideration of other views tending to the same conclusion, let it be steadily borne in mind that man feels by the constitution of his nature that an adequate power has gone forth in every instance in which he witnesses the operations of the universe, and that the generalization of this fact on repeated occasions becomes a belief in the creative and directing hand of an Omnipotent Cause.

VIII.

ORIGIN OF A PLURALITY OF GODS.

Mr. Atkinson, accounting for the belief of a Great Spirit among savage tribes, says: "The idea of a God is in the mind of most savage nations, because under like influences like effects will occur." P. 173. Here he hits upon the truth. These savages possess a human mind, not yet led astray from the original promptings of nature. Their belief in an overruling Great Spirit indicates, in the strongest and most unequivocal manner, that it is characteristic of man to see the exercise of conscious power in the operations of the universe. The mythology of the early stages of human society rests on the same all-pervading belief. Man seeking to find a power operating in every act which he sees performed,

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personifies the power, and in the absence of more exact knowledge ascribes the effect which he witnesses to living power; and thus at last finds the presence of a Dryad, Hæmadryad, Nymph, or Deity, in each of the striking natural appearances which take place around him. Mr. Atkinson may triumphantly exclaim, What does that prove, but that all theology is the result of ignorance, and that there is nothing too degrading or too absurd for the mind of man to believe while it remains ignorant of eternal law! It might be asked in turn, How it happens, that so much degradation and so much absurdity in the case of man,—the highest member of the animal kingdom,—should be the result of the working of those eternal laws from which he has sprung, and by which, according to our author's view, his thoughts and acts in all their grossness must be determined and governed? Other animals come up from the first to the standard of their nature. Each is perfect in its kind; there are no such anomalies in its history as in the history of man; the term degradation is inapplicable to any other animal but to man,—plainly the highest as to structure in the scale of living beings. How does this state of things accord with that constancy and perfection of operation which should characterise the simple results of eternal and immutable laws of matter? But if our author confesses that

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man rises in obedience to the eternal laws of matter from that state of degradation in which he is found in an early stage of society, by the gradual improvement of his faculties and the increase of his knowledge, he must admit that the faculties are the same from the first, but capable of progressive development. The fundamental ideas on which man, in the infancy of society, forms his conclusions, are the same which he afterwards employs in his highest state of advancement. Otherwise there could be no progress. The philosophical errors of man, so to speak, are not errors of degradation; his conclusions are formed upon right modes of interpretation, but upon too limited grounds of knowledge. When he ascribes the more striking operations of nature to the acts of presiding deities, he reasons in accordance with the fundamental principles of his nature, and all the change which philosophy makes on his early interpretation of these acts of power, is to show him that there is a unity in those effects which should lead to the inference that there is a unity in the cause, and that the cause will be found adequate to the effects only by the conception that *it is* omnipotent.

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IX.

THE CHAIN OF CAUSES NOT INFINITE.

In some of the passages already quoted, Mr. Atkinson appears to misunderstand the axiom, "that every event must have a cause." It is not from experience that we derive this idea. Our own minds supply the idea of cause, otherwise whence could the idea have originated, since there is no case in which any other connection can be discovered by observation between causes and effects, except the quality of invariable sequence? The axiom, "that every event must have a cause," though a truth which the human mind, by its constitution, cannot throw aside, or conceive to be set aside, does not involve the idea, as Mr. Atkinson seems to think, that the chain of causes must be infinite. He says, "They are to consider it necessary that man should have a Maker, and that the demand of causality is to rest there." And, again: "He is now told that he is brought out of nothing by the Great Physician." * * * "A lesser difficulty is thus solved only by a greater difficulty of the same nature." The axiom does not refer to existence, but to change,—the continued existence

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of an Infinite Cause is not an event. Man may have some difficulty in conceiving the non-existence or annihilation of matter; but he feels under no necessity to believe in its eternal existence. That stars have disappeared from the solar system is certain,—and why may not our planet? The globe in its present form, "yea, all that it doth contain," may melt away "like the baseless fabric of a vision," and its particles assume new relations in realms of space of which we have no conception. While, therefore, it is impossible for the philosopher to understand the annihilation of space and of duration, he may rightly ascribe the overpowering character of the thoughts which arise in the contemplation of still-increasing space, and still-increasing duration, to the limited extent of his own faculties, as compared with the subjects which he tries to grasp. Man, in short, is fully capable of the conception, that the material universe and its phenomena are the acts of a stupendous drama performed in time on the theatre of space, which had a beginning and will have an end. It is not necessary for him to suppose that matter pervades all space, any more than that it has an infinite duration. The limitation of his intellect regards merely the infinities of space and duration in general; and when, by carrying out the fundamental ideas of his own intellectual nature,

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in connection with the phenomena which observation teaches him, he has arrived at the notion of an Infinite Cause independent of matter, he has exhausted the axiom, "that every event must have a cause,"—he has attained a point beyond the region of events; and it then becomes satisfactory to the human mind, that the demand of causality should rest with an omnipotent, unchangeable Power; which being omnipresent, exhausts infinity of space,—and being eternal, exhausts infinity of duration,—and being infinite in wisdom, exhausts all law.

We have already referred to an occasion when Mr. Atkinson, in one of his letters to Miss Martineau, inadvertently dropped the mask of atheism, and obeying the impulse of his better nature spoke of God; and we say to Miss Martineau, let her examine her own breast in a natural manner, at some moment when she feels herself unbiased by the affectation of this pseudo-philosophy, and we will answer for it she will find that the idea of an omnipotent God still dwells there.

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X.

THE POWER SOUGHT FOR BY MAN IN THE OPERATIONS OF NATURE, A CONSCIOUS, INTELLIGENT CAUSE.

Mr. Atkinson banishes power from the universe. On his system we cannot but wonder how such an idea could have arisen among men, or how such a word could have usurped so prominent a place in all languages. It would appear that, according to his principles, men have an office in nature which he denies to God; namely, that of creating things out of nothing: for whence could the idea of a thing so distinct and so universal as this have arisen, if it have no representative in the universe? Our opponents say it is a false notion. We say it is one of the impressions on the mind of man which it is in vain to try to chase away. We do not deny that there are false notions in the mind of man,—and of woman, too, as the work before us abundantly testifies: but these false notions are more or less transitory in their character—peculiar, often to an individual, to a small circle, to a tribe, or to an age: but a notion can hardly be false which, like that we are commenting on, has

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all but a universal prevalence. It is, in short, universal, except among the few who have confounded themselves by an exclusive attention to the bare rules of inductive science and the unphilosophical doctrine of law as paramount in nature. We are not called on by any of Mr. Atkinson's views to enter on the particular consideration of the origin of the notion of power in the mind of man; it is enough to have pointed out the fact on which we have already dwelt so long, that the notion of the exercise of power attends the inspection of every operation in nature. The original notion, however, of power on the mind of man, plainly does not refer to any merely physical influence. If this notion be not borrowed, as Herschel says, from the consciousness of that liberty of action which man by nature feels himself possessed of, it is at least very much modelled on that pattern. A man may be at first satisfied to accept such terms as affinity, magnetism, gravity, as representing the power which he regards as necessarily intervening in the several kinds of phenomena to which these terms relate; but when he comes to find that these terms express no actual exercise of power, he feels that he had deceived himself, and that to satisfy his mind he still has to seek an efficiency intervening between the so-called cause and its effect, which these terms do not supply. It may safely be

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affirmed that every person, when he first applies himself to the study of natural phenomena, whether in natural philosophy or chemistry, will feel a great disappointment when he comes to learn how bare and meagre is the signification of such terms as gravity, magnetism, affinity, when compared with the fulness of satisfaction which the natural course of his thoughts had led him to anticipate from them in explanation of the phenomena wherein they are concerned. There can be no doubt that the longing of the human mind after knowledge, as founded on its original constitution, would be much more perfectly gratified in the study of the operations of nature, if along with such an expression as announces a mere law, it were added that such was the will of God, than by the simple reference of the phenomena concerned to gravitation, magnetism, or affinity. And the plain reason of the disappointment referred to, and of the gratification experienced by the introduction of the name of God into the cause is, that what the human mind naturally desires in a cause is,—a cause which has a consciousness of power,—a real personality, and not a mere word expressive of law.

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XI.

LAW.

THE word "Law" is perpetually in Mr. Atkinson's mouth; yet he has nowhere afforded a clear idea of the precise sense which he would attach to it. It is in truth a very vague term, and therefore very suitable to an argument which maintains itself by assumptions, sophistries, and a vainglorious affectation of superior penetration and wisdom. The unlearned reader, who has had his mind excited by the pomp of Mr. Atkinson's perpetual reference to the eternal and immutable laws of matter, could hardly credit us if we were to tell him that only one great law of matter has yet been discovered: and yet it is quite true that the universal gravitation of matter inversely as the squares of the distances, is the only great law of the universe which man has discovered. It may be also admitted if, as seems likely, the undulatory theory of light be soon finally established, that another great law is within the reach of the human mind. If we could persuade ourselves that to discover laws of the universe like these, men had nothing more to do than to open their

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eyes and look about them with some such *ciceroni* as Mr. Atkinson to guide them to the proper points of view, we might be induced to join in crying up the paramount character of law in the circle of human knowledge. To disparage the value of the advances which men have made in knowledge by means of observation, would be the height of folly. But when, by the use of vague terms, weak and vain minds are entrapped into the idea that it is a vulgar thing to believe in God, and that the laws discovered by observation are sufficient to explain all the wonders of the universe, it is necessary to consider in what sense the term law is really employed. The term law, in the description of the phenomena of science, is a convenient term; and vague as has been the use of it, hardly any inconvenience arose till superficial reasoners abused its meaning by using it to denote the common character of a group of phenomena above the Author of these phenomena. So long as our reasonings are confined within the limits of the material world, little inconvenience results from the indiscriminate use of such terms as law, cause, principle, as applied to the generalization obtained in each department; but when our inquiries extend to what may be called the philosophy of causes, under which head fall the distinctions between mind and matter, between God and

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Nature, it is necessary, if we would avoid error, to use these terms so that the sense intended on each occasion may be clearly understood.

The circumstances which give so great an extension to the term law, in the science of our time, is its indiscriminate application to mere rules of phenomena, and to those few great generalizations above referred to, of which there are almost solitary examples in universal gravitation and the undulatory theory of light. By far the largest part of our knowledge of nature at present consists of unconnected laws of phenomena,— that is, of laws of phenomena which have not yet been referred to any great single comprehensive principle. Such detached laws afford no such satisfaction to the mind as it requires in a cause. They are the rules which the effects follow, and very often are no more than single properties found to meet in a group of substances. Mr. Whewell says, "In a large class of sciences, while we have learnt many laws of phenomena, the causes by which these are produced are still unknown or disputed. Are we to ascribe to the operation of a fluid or fluids, and if so, in what manner, the facts of heat, magnetism, electricity, galvanism? What are the forces by which the elements of chemical compounds are held together? What are the forces (of a higher order, as we cannot help believing,)

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by which the course of vital action in organized bodies is kept up? In these and other cases, we have extensive departments of science; but we are as yet unable to trace the effects to their causes; and our science, so far as it is positive and certain, consists entirely of the laws of phenomena."—"The Philosophy of the Inductive Sciences," vol. ii., p. 260, 1. Mr. Whewell here confines the term *cause* to such great principles as the attraction of gravitation. In the sciences which fall under natural philosophy, as admitting in general of the application of mathematical investigation, the laws have a more determinate character; but in the whole range of chemistry, the agency of which Mr. Atkinson must feel to be altogether so indispensible to the arrangement of the actual matter of physical and organic nature, there is not a single law or principle of even moderate comprehensiveness. Chemistry abounds in such rules as correspond to what in medicine are sometimes called empirical rules; but there is very little of what will bear the pompous name of an eternal and immutable law of nature. Chemists are accustomed to speak of the laws of affinity; but properly speaking, no great laws of affinity have yet been discovered. In the whole subject of affinity it may be doubted if anything justly entitled to the name of a general law be yet

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known. It is correctly enough said that chemistry rests wholly on affinity,—that is, the means which a chemist possesses of accomplishing the ends he has in view, lie in a knowledge of affinities; but that knowledge consists of a great number of particular facts, with a few technical rules to assist his memory;—perhaps the only unequivocal law of affinity is that which regulates the saturation of acids and *bases*. Thus, were a new acid discovered, as soon as the quantity of this acid which should saturate 48 grains of potassa were ascertained, it would become known without experiment that the same quantity could saturate 32 grains of soda, 64 grains of baryta, 28 grains of lime, etc. Again: mere collections of facts in chemistry are very often termed laws;—such as, that the alkaline carbonates are freely soluble in water; that the carbonates of the earths and of the metallic oxides are insoluble; that sulphates when heated with charcoal are converted into sulphurets of the metallic base; that when in water, soluble salts are dissolved together, which contain amongst them the constituents of insoluble salts, these insoluble salts immediately form and are precipitated. And so of caloric, most bodies expand when heated; this is plainly a mere collection of facts, unconnected as yet by any principle. It is plain that laws such as these are the mere recognition of facts

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ascertained indeed by experience, but useful rather to help the memory and assist in the chemical arts than at all applicable to explaining the mode in which the matter of the universe assumed its actual form.

It has been laid down by some philosophers, that in inductive science the inquirer should carefully avoid any attempt to discover the origin of things, —that the object of inductive science is simply to ascertain the laws of phenomena,—in short, that by the method of observation no progress can be made except within that limit. There are two conditions under which this view may be properly assented to: the first, that the term 'law of nature' shall here include such great principles as universal gravitation; the second, that man shall not be excluded from the study of what may be termed the philosophy of causes by such means as, independently of the method of induction, lie within his reach. The prohibition to attempt to apply inductive science to the discovery of the origin of things, has been understood by some to signify that the mere laws according to which effects take place, are the proper objects of that kind of science; and that it is forbidden to seek, by the consideration of particulars, to reach one great and comprehensive fact, from which by deduction new facts may, independently of a fresh experience, be acquired.

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Mr. Whewell says: "Since it is thus difficult to know when we have seized the true cause of the phenomena in any department of science, it may appear to some persons that physical inquirers are imprudent and unphilosophical in undertaking this research of causes; and that it would be safer and wiser to confine ourselves to the investigation of the laws of phenomena, in which field the knowledge which we obtain is definite and certain. Hence there have not been wanting those who have laid it down as a maxim, that 'science must study only the laws of phenomena, and never the mode of production.' But it is easy to see that such a maxim would confine the breadth and depth of scientific inquiries to a most scanty and miserable limit. Indeed, such a rule would defeat its own object; for the laws of phenomena, in many cases, cannot be even expressed or understood without some hypothesis respecting their mode of production."—"The Philosophy of the Inductive Sciences," vol. ii. p. 268. If Comte, in his "Philosophie Positive," which Whewell quotes, really thinks as the English philosopher interprets his words, he surely altogether mistakes the true object of inductive science, which cannot but be to reach in every subject as quickly as possible the largest and most comprehensive law. What we should understand by the production of laws

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or the origin of things, is wholly different; namely, a cosmogony, and origin of organic species, such as the author of "The Vestiges of the Natural History of the Creation" has indulged in, and to which inductive science plainly affords no countenance. The philosophy of Bacon teaches us to inquire into things as they are, and not to waste our time on researches for which observation supplies no materials. It is not to be assumed, however, that man has no natural curiosity to inquire after the origin of things as well as into the laws of phenomena; but no materials exist for any inquiry but one of the most general kind, which has been already fully pointed to; namely, by reflection on those necessary and natural truths inherent in his own mind, by which he is led to feel that there is an exertion of power in every event of nature; and finally, by a generalization of these acts of power, taken together with the evident unity of things, to reach the idea of an infinite intelligent Cause and Author of the universe.

Again: to assume that man must be shut out from every source of knowledge, except that afforded by the method of induction, is to take a most narrow view of the boundaries of the human faculties. We have already seen that man's mind, without experience, possesses necessary and

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natural intuitive truths, and that by reasoning from these many other truths can be established, without any assistance from the means on which inductive science peculiarly rests. We have only to point to the vast extent and importance of the mathematical sciences to prove how great may be the results in this line of investigation; namely, by means of necessary and natural intuitive truths.

Thus it may, or, rather, it ought to be admitted, that science, in so far as it is inductive, has nothing to do with the origin of things,—has no concern with the creation of matter or the origin of organic species, but only with the laws (in the most comprehensive sense, however, of the term) according to which phenomena take place.

But before leaving the subject of law, we shall quote, and comment briefly on, a passage from one of Mr. Atkinson's letters, with the view of affording to the reader a more distinct notion of his mode of thinking on such subjects. The passage referred to begins with the following sentences: "We know nothing fundamental of Nature, nor can we conceive anything of the nature of the primary Cause. We know not, nor can we know, what things really are, but only what they appear to us, and the relations of their appearances. The form of these relations we term Law. Whatever is, must have a form of being and action. It cannot be what

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it is not, but must be subject to the form or law of its constitution."

The first sentence of this quotation is perfectly correct and unexceptionable, when regarded as exclusively in connection with inductive science,—the science of the observation of phenomena, or that which rests solely on experience for its basis. Inductive science does not teach us anything fundamental of Nature; it does not enable us to conceive anything of the nature of the primary Cause. But we affirm, that when certain of those truths which are inherent in the human mind, and which do not result from experience, like inductive science, are appealed to, men feel compelled to believe that matter is not self-existent, and that the primary Cause is an Infinite Personal,—that is, Conscious Intelligence. The second sentence, also, is full of truth, in the sense in which we should understand it: "Philosophy, taken in its largest sense, cannot represent to us what the universe really is, but only what the human faculties represent it to be." The universe, as we conceive it, is the universe reflected by the human faculties, limited in the same proportion as they may be conceived to be limited. But Mr. Atkinson will perhaps exclaim, that we do not interpret the sentence in the spirit in which it was written, and that it literally means that we can know nothing more of the universe

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than what our senses teach us; and that the next sentence, which intimates that "the form of their appearances is termed Law," proves that no reference was made to anything but observation and experience. We will just ask Mr. Atkinson one question. He says we can know nothing but appearances and the relations of appearances; as if we had nothing more to do than to open our eyes and see at once the relation of the sun to the planets,—of the secondaries to the primaries. And our question is, How much does he think we should know of the relations of the phenomena of Nature without the mathematical sciences? And if he admit, as we do not doubt, that it would be very little; we then say, that if the mathematical sciences (which are not derived from the science of law, or inductive science, and do not rest on experience) be the means of affording man so large an insight into nature, is it to be affirmed, unconditionally and without proof, as Mr. Atkinson does, that the great intuitive truths as to cause and power, which repose in the human mind on grounds unconnected with experience, and like those on which mathematical truths support themselves, cannot afford us any general notions as to the character of a First Cause?

The next sentence is,—"Whatever is, must have a form of being and action." This is a well-known

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atheistical formula. It is commonly directed against the evidence of design or purpose in the works of nature. The real meaning is neither more nor less than, that "whatever is, is what it is." The next sentence hardly adds to the sense: "It cannot be what it is not; but must be subject to the form or law of its constitution." He illustrates this from the mind. What, then, is the form of being and action of the human mind? We should answer differently, we suspect, from Mr. Atkinson. The human mind is conscious of its own being, and infers from the character of the acts of other men that they are conscious beings, like itself; it has inherent notions of cause and power; and when the great operations of external nature fall under its cognizance, it regards them as examples of the exertion of cause and power; and, proceeding to measure causes by their effects, it at last conceives Infinite power conscious like mind itself, as the only solution of the phenomena of the universe conformable to its own being and mode of action. But to continue our quotation: "Even supposing the mind was an entity separable from the body, and acting independently of body, it must still have a nature of its own, and be determined by the form of that nature; and this form of being and action we term Law. Nothing can be of itself, or change its condition, unless it be

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acted on by something else. A man cannot of himself, or by his will, become a tree, any more than a triangle can by any means become a circle; nor are more causes to be admitted than are sufficient to produce any particular change or effect. Hence we require no supernatural causes when we can recognize adequate natural causes inherent in the constitution of nature. The phenomena of instinct and reason are no exception or anomaly in nature. The different characters of men arise from the differences in the substance and form of their being; just as it is with other animals, and with plants and stones. For every effect there is a sufficient cause; and all causes are material causes, influenced by surrounding circumstances,—which is nothing more than matter being influenced by matter." Pp. 7, 8. In the latter part of this passage there are some statements not very reconcileable with the views which prevail throughout Mr. Atkinson's letters. Here, as in some other passages, we are almost tempted to believe that our author does not understand himself; or that, as before hinted at, he has assumed the mask of an Atheist merely for the sake of a little notoriety, being all the while in reality perfectly orthodox in his philosophic opinions. The first sentence which strikes us in the last quotation is, "Nothing can be of itself, or change its condition, unless it

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be acted on by something else." What is this but the axiom,—the natural truth, not derived from experience or observation of any kind, but an axiom inherent in the human mind, on which we have insisted so much above; namely, "that every event must have a cause?" It is plain that this axiom is nowhere to be gathered from physical nature. Our author must either have learned it from his own mind, or else he must believe that he has seen it by clairvoyance, occupying the mind of some philosopher. In either case Mr. Atkinson must regard it as a property of some part of the brain; and, moreover, he should believe it to be a delusion; for if true, it strikes at his whole system of mere law. In the latter part of the next sentence,—"Nor are more causes to be admitted than are sufficient to produce any particular change or effect," is borrowed from Newton, and is a most important axiom; but how it is to support Mr. Atkinson's system of mere law, we are totally at a loss to conjecture. If the whole of nature be a mere exhibition of law, what can be the meaning of a sufficiency in a cause to produce an effect? Those who think correctly, say that though no kind of connection can be discovered between natural events standing to each other in what is termed the relation of cause and effect, except invariable sequence, —that is law,—yet that the human mind is so

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constituted as to feel that an exertion of power has occurred at that moment; and that belief in the continual exercise of power throughout Nature, as before stated, they generalize into an Infinite Cause. But as Mr. Atkinson admits no such Infinite Cause, he is not entitled to speak of the sufficiency of a cause to produce an effect. It is quite true, as our author says in the next sentence, that "we require no supernatural causes when we recognize adequate natural causes inherent in the constitution of nature." But will Mr. Atkinson tell us, what adequate causes his system recognizes in the constitution of nature? His system recognizes nothing but law; and law, he tells us, signifies the relations of the appearances of nature; that is, the rule according to which the effects happen. In his system there is no room for the term cause in any other sense than what is synonymous with law. True, he may reply, that he regards every event which is a particular instance of a general law, to be sufficiently accounted for, when that general law is represented as being its cause. Thus he may say there is a sufficient cause why an apple falls to the ground, and why the moon is retained in its orbit in the general law of gravitation. And we admit. if Mr. Atkinson can prove that the law of gravitation is an eternal law inseparably from the eternal existence of matter, that an apple falls to the

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ground of necessity, as the moon also, in that case, must be retained in its orbit by a necessity of the material world. But that necessity is not a necessity of human thought,—our only standard of truth; but a necessity flowing from the assumption that matter is eternal,—the very point in dispute between us. And therefore when Mr. Atkinson says that we require no supernatural causes,—by which he understands a God,—when there are adequate natural causes inherent in the constitution of nature; the whole amount of what he says is, "if matter be eternal, there is no need of a Creator." The rest of the passage is merely a string of repetitions of the same gross assumption.

XII.

CHANCE.—DESIGN.

Mr. Atkinson attaches much importance, as an argument in favour of his system to the idea, that there is no such thing as chance in the world. His argument is, as there is no such thing as chance in nature, so there cannot be anything entitled to the name of design. The equivalent of the proposition,—that there is no such thing as chance, is simply, that anything which happens

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has a cause;—while the meaning of design is, the direction of known causes in such a manner that they shall produce a previously-conceived effect. What kind of logic is this? Every event must have a cause, therefore causes cannot be so directed as to produce a previously-conceived effect. The proposition, — that nothing happens by chance, does not in the least interfere with the possibility of the conception of design. There is not even any difficulty attendant on the admission, that, under the existing conditions of the material world, causes produce their effects by an actual necessity. And when a design is accomplished under the same limitation, it is the effect necessarily resulting from the causes which have been made to operate. This case is, in one aspect, parallel to a mathematical demonstration. The mathematician discovers a new truth; he invents a demonstration,—this demonstration consists of necessary truths, and the conclusion is a new necessary truth. It is possible that such a demonstration may be varied to a great extent at the option of the mathematician, without in the least changing the conclusion. Thus, as necessary truths may be variously employed at the option of an individual mind to bring out a new necessary truth, so may causes acting by necessity in the actual state of nature be employed to produce an effect, which, though a

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design, while it was yet but preconceived, comes finally to be a necessary result of the causes which had been brought to co-operate. But Mr. Atkinson will not reject this reasoning within certain limits. He says, that there is no design in nature; but that in art fitness implies design. Yet surely, in his system, art is a part of nature. Can art, according to his view, exist independently of the eternal laws of the universe? Surely he does not deny that the steam-engines which carry a vessel across the Atlantic, are as much a work of nature as the whale which may be descried in her course! Here, then, we cannot but think he has made an inadvertent admission. If there be design in one part of the universe, why may there not be design, on a larger scale, in another? Or, does our author attach any other meaning to design than what has been indicated above? Man uniformly directs his operations by preconceived plans. These plans he carries out by variously directing the laws of nature in connection with the known properties of bodies. Design, then, is familiar to the mind of man; it is never absent from his thoughts; it enters into every train of reflection; it is impossible for him to turn his attention to any subject, much less to the wonders of nature, and to divest himself of this idea. Other animals possess this power in an extremely limited degree. They

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are not absolutely denied the power of converting the properties of bodies and the laws of nature to use; but they plainly do not preconceive the effects which they are, in this manner, about to produce. They act by an instinctive necessity of their nature, and, step by step, a result is produced which they plainly did not foresee. Their course of proceeding is directed; they do not make ineffectual trials like man; their work is perfect like the operations of physical nature, — they require no plan, no teaching, no knowledge. Man, on the contrary, is destined to many failures before success crowns his efforts. It is by these failures that he feels he is, in truth, a being capable of design, and not a mere machine in the hands of nature. If the moment a purpose arose in his mind, he saw how to accomplish it, and felt that his success was by necessity, he would be compelled to form a different idea of his own condition from what is implied in design: but man never so feels,—by the constitution of his nature he knows that he designs; and we are sure that Mr. Atkinson himself, whatever he may say, is every moment influenced by the same belief on this point which rules the rest of men.

Nothing so strongly shows the extent to which the idea of design mingles in the thoughts of men as the universal and frequent use of the term

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chance. Mr. Atkinson must not flatter himself that men in general think when they speak of things happening by chance, that they mean they happen without a cause. When they say a thing happens by chance, they do not regard it as having happened independently of the laws of nature, but as having happened without the concurrence of an intelligent agent. They do not think that it has taken place without the agency of an efficient cause, but merely without the intervention of a preconceived purpose. When a person shakes the dice-box and throws sixes, no one doubts that if he could repeat exactly the same series of muscular acts over and over, he would throw sixes as many times—and the event is said to occur by chance, not because it is believed that it is not produced by a definite series of efficient causes, but because any attempt to control or direct these is abandoned as impracticable. It is not impossible to conceive that a person might acquire the power of giving so exactly the same movement to the dice-box each time as invariably to throw sixes—in which all idea of chance would cease, and he would be correctly described as throwing sixes by design. If, however, a person were seen to throw sixes every time without any sign of preserving throughout the same kind of movement of the dice-box, we

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should conclude that the dice were loaded,—and here also the case would fall under the head of design,—we should rightly conclude that the ordinary causes, which regulate the turning up of the dice, were neutralised by an overruling cause, introduced by design,—and though the cause here may be but an inert piece of metal, it would represent unequivocally an act of mind.

Hence it appears that, according to the ordinary current of men's thoughts, a chance event is not an event which has no efficient cause, but an event which had not a preconceived purpose. So that, in truth, Mr. Atkinson may be represented as guilty of a solecism against his own system, when he piques himself on the discovery that there is no such thing as chance, because the "laws of nature are chance-excluding laws." For, while events of the most fortuitous character are never believed by men in general to occur without the operation of a cause, or a series of causes, what they commonly understand by events of chance are events which arise independently of a formed design or distinct purpose. So that we are entitled to charge Mr. Atkinson with the inconsistency of saying, in one breath, that there are no events without a distinct purpose,—and that no such thing as purpose exists.

We shall retain, however, the sense put at first upon his proposition; namely,—that nothing occurs

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by chance, inasmuch as every event has a cause; and when he adds, that all causes act by necessity, we reject his conclusion, because it involves the assumption of the self-existence of the material world. The difference between Mr. Atkinson and us at present, regards design,—he says, there can be no design, because all causes act by necessity; and if we ask him why, then he answers,—because the material world is self-existent. So that his proposition rests on nothing better than the assumption, that—there is no need of a Creator.

XIII.

LIBERTY OF ACTION.

Mr. Atkinson's system of necessity, as a matter of course, includes the assertion, that man has no liberty of moral action. On this point, however, we find neither argument nor illustration. He contents himself with such broad assertions as, that "Man has no more power to determine his own will, than he has wings to fly," p. 6; and "I cannot tell how odd it seems to me to have to assert so self-evident a fact." Yet it would not have been a very great act of grace to his readers had he stated some of his reasons for this assumption, if it had

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been for no other purpose than to show how far he is competent to hold an opinion on a subject so abstruse as free will,—and the more so, since it is very palpable that there is no man living who does not at every moment feel the conviction that he is free to act, or to abstain from acting; and since, moreover, it is quite certain that without this conviction present to the minds of men, human affairs could not proceed in their ordinary course for a single hour. Mr. Atkinson will reply that he does employ an argument, and that it is as follows:—The material world exists from eternity; there is no distinction between the phenomena of mind and the phenomena of matter—both being the result of material laws: all the phenomena of nature are produced of necessity; therefore the acts of man, as part of the phenomena of nature, are determined by necessity. It has been already shown, that logical argument consists in showing that the conclusion is a proposition equivalent to some truth or truths naturally or necessarily acknowledged by the human mind. But in this so-called argument of Mr. Atkinson's, there is not any one truth,—the whole is one tissue of assumptions.

Man's free will cannot be established by reasoning,—it is a fact in his mental constitution. Sir William Hamilton justly says, "The doctrine of moral liberty cannot be made conceivable, for we

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can only conceive the determined and the relative. As already stated, all that can be done is to show; first, That for the fact of liberty, we have, immediately or mediately, the evidence of consciousness; and, secondly, That there are among the phenomena of mind many facts which we must admit as actual, but of whose possibility we are wholly unable to form any notion. I may merely observe, that the fact of *motion* can be shown to be impossible, on grounds not less strong than those on which it is attempted to disprove the fact of *liberty*; to say nothing of many contradictories; neither of which can be *thought*, but one of which must, on the laws of contradiction and excluded middle, necessarily be. This philosophy—*the philosophy of the conditioned*—has not, however, either in itself, or in relation to its consequences, as yet been developed."—(Note in his edition of Works, by Thomas Reid, p. 602.) It is plainly the limitation of the human faculties, within certain definite boundaries, which prevents man from being able to conceive how much, that actually is, should be. Man cannot conceive space to be bounded, or yet to be boundless; he cannot conceive time to be limited, or yet to be without limit: and these two difficulties directly concern that physical world which seems so completely in other respects to be apprehended by the senses. And it is certain that no

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one can fairly look at things, in this aspect, without feeling that there is a barrier interposed to the understanding by man of the general scheme of material nature, because his faculties have not been made equal to certain parts of the task. If this be the case, with regard to what directly concerns the material world, should we be surprised that like difficulties occur as to our power of conceiving how the actual operations of the moral world are to be reconciled with our limited apprehensions? We would recommend Mr. Atkinson to reflect on the real signification of one of his own sentences: "We know not, nor can we know, what things really are, but only what they appear to us." Surely he does not exclude from what he here calls things the operations of man's mind. And yet he insists on interpreting those things of the human mind, like the fact of liberty of action, in a way totally different from what they appear to every individual in the most impressive form. We would also recommend to his consideration such ideas as the following, before he next gives his sentiments to the world on free will and necessity: "Positive thought lies in the limitation or conditioning of one or other of two opposite extremes, neither of which as unconditioned, can be realised to the mind as possible, and yet of which, as contradictories, one or other must by the fundamental laws of thoughts, be recognised

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as necessary."—(Sir William Hamilton, ib., p. 743.) For men to doubt the truth of what their own minds unequivocally and universally teach and command an implicit belief in, is the grossest of all self-delusions. Man is from his own individual infancy, as well as from the infancy of society, a student of himself and of external nature. He acquires new ideas in his progress, but not new fundamental instincts of belief. In a certain sense, he is a philosopher from the rudest state of life in which he is known. "Man has not one set of faculties for the ordinary pursuits of life, and another for the cultivation of philosophy. Philosophy is essentially human. The same faculties,—the same powers of reasoning,—the same principles of belief which govern the savage in his simple course of life, and the civilized citizen in the acts of industry, — are those, and those alone, which the philosopher must make use of in his science. For science essentially is the search, not after the laws which may, by possibility, govern nature, but after the laws by which man, according to the necessity of his mental constitution, must see nature."—Bushnan, "The Philosophy of Instinct and Reason," p. 210, 211. If a man cannot trust his internal instincts of belief, what can he trust? Among his instincts of belief is, his belief in the existence of an external world. In the reality of what consciousness

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represents to him he must believe. Even if he could avoid believing in the reality of an external world, he must nevertheless believe that he is conscious of two different sets of phenomena; namely, those, by whatsoever name he might term them, which correspond to what are actually called external or sensible phenomena, and the negative of those, recognised by ordinary men as internal. The reality of both is the same; but the external are certainly not more real than the internal. Now surely it is a fact, that men unequivocally and universally act on the natural conviction that they enjoy liberty of action; how can so palpable a fact be gainsayed? If nature can, in such a point as this, deceive us, how can we be sure that we are not equally deceived into the belief that two and two make four? All that Mr. Atkinson can set against the universal belief of men as to the fact of their liberty of action is the double assumption, that mind is matter, and matter eternal.

We rest upon this axiom, that whatever the human mind rightly constituted seeks to know is a legitimate subject of inquiry, and whatever the human mind rightly constituted rests satisfied with, is the standard of truth in science. We cannot, therefore, see how a man who believes in the doctrine of gravitation, because its proofs satisfy the

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minds of men in general, can refuse to believe in such universal feelings as that of the exercise of power when an operation of nature takes place, or that of the liberty of human actions,—two facts which are as clearly truths in the history of the phenomena of mind as any of the truths for which we have the authority of a Kepler or a Newton in physical science. When such scepticism on the natural objects of man's belief, as Mr. Atkinson and Miss Martineau have adopted, is admitted into the mind—that is, when the clearly defined persuasions on which, without useless argument, men daily act in the ordinary affairs of life, and in the ordinary pursuit of knowledge, are laid aside, the way is already open, being indeed the only consistent course, to that universal scepticism, that nihilism which Fichte described as the result of his speculations before he came to confess that natural belief is paramount to every logical proof. "The sum total," he says, "is this: there is absolutely nothing permanent either without me or within me, but only an unceasing change. I know absolutely nothing of any existence, not even of my own. I myself know nothing, and am nothing. Images there are: they consitute all that apparently exists, and what they know of themselves is after the manner of images; images that pass and vanish without there being aught to

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witness their transition; that consist, in fact, of the images of images, without significance and without an aim. I myself am one of these images; nay, I am not even thus much, but only a confused image of images. All reality is converted into a marvellous dream, without a life to dream of, and without a mind to dream,—into a dream made up only of a dream of itself. Perception is a dream; thought,—the source of all the existence and all the reality which I imagine to myself of my existence,—of my power,—of my destination,—is the dream of that dream." Such is the prospect before Miss Martineau, and the rest of those who adopt Mr. Atkinson's pseudo-philosophy, if they be capable of following out the principles on which he reasons to their logical consequences.

XIV.

THE ORIGIN AND CHARACTER OF ORGANIC SPECIES.

Mr. Atkinson troubles himself very little with proofs. He does not love to weigh the possible, the probable, the morally certain, the demonstrative. He cuts short all difficulties with the *ipse-dixit*, "man, animals, plants, stones, are in Nature," because the cause in nature, or of Nature, is eternal

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and immutable. Again, he says: "The mind of man, the instincts of animals, the sympathies (so to speak) of plants, and the properties of stones, are results of material development; that development itself being a result of the properties of matter, and the inherent cause or principle which is the basis of matter." We need not hunt over the book for other passages bearing on this subject; for here, as in every one of the great, the momentous questions on which he touches, Mr. Atkinson speaks oracularly, disdaining to waste arguments on his readers.

When we come to consider the origin of organic species upon our globe, the first question which naturally presents itself is, by what rules is the investigation of this subject to be conducted? We know that, in former times, men often wasted their energies on the debate of questions, the solution of which lies far beyond the limits of human knowledge and the range of the human faculties. Bacon's philosophy was particularly directed against attempts to reach the impossible in science. It grants no quarter to the foolish questions entertained so often by the schoolmen, merely for the sake of a sort of intellectual gladiatorship; of which one of the current examples is,—How many angels can dance on the point of a needle? The spirit of Bacon's philosophy is to exclude all questions for

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the solution of which man is not provided with the requisite means and materials. Accordingly, it is to the order and arrangements of Nature as they exist, that Bacon seeks to draw the attention of the cultivators of knowledge. His philosophy does not turn on the origin of things, or on final causes; because in respect to physical nature, and particularly in the infancy of knowledge, speculations on these points of human curiosity, having no sufficient materials to rest on, could lead to no progressive results. When we speak, then, of the Baconian philosophy, it is understood that we refer to the modes of investigating the actual order of Nature and the laws according to which existing natural phenomena take place,—while speculations as to the origin of things, and also as to final causes, are excluded. But it is a great mistake to suppose that the Baconian philosophy exhausts the whole range of human knowledge: it is a method of investigation illustrated as far as the light attainable in his day permitted; but the spirit of the Baconian philosophy, rather than its mere letter, belongs to our day. If men find they have become possessed of the means of inquiring successfully into the origin of things, or into the final causes of certain orders of phenomena, the spirit of the philosophy of Bacon offers no prohibition against engaging in the investigation to

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the fullest possible extent. It may, or it may not be, that such investigations will fall with propriety under the head of the philosophy of Bacon. Unless the mode of investigation shall mainly consist in applying the rules of inductive science, this new study will not be correctly termed the philosophy of Bacon. But if it be in accordance with the spirit, though not with the letter, of the Baconian philosophy, and be of unquestionable truth, it surely will not be denied the name of human science? It is certainly true, that very few subjects of human knowledge as regards Nature can be conceived to be cultivated otherwise than by a considerable use of the common rules of inductive science; but because a subject admits of having the inductive method largely applied to it, it does not follow that other modes of investigation may not also be applicable. Nor will it follow that, in such a case, the knowledge brought out by induction is solely to be relied upon, to the exclusion of what has been otherwise determined to be true.

As Mr. Atkinson is not satisfied with studying the physiology of plants and animals,—that is, the laws which regulate the phenomena of the species of plants and animals, in accordance with the Baconian rule, to investigate the order and arrangements of Nature as they exist, but attempts to explain how organic species originated on our planet,—we

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might expect that he had some important sources of knowledge to impart to us as to the mode in which the inert matter of the crust of the earth passes originally into the organic condition, to warrant him in this deviation from the letter, if not from the spirit, of the instructions of the truly great philosopher whose name he pretends so much to venerate. Unless the following passage wrap up some such wonderful discovery, we have nowhere else in his work been able to find evidence of his success: "Man is of the dust, and consequently every grain of dust contains the latent principle of human nature, and of instincts and powers perhaps higher than mind has yet conceived of, and infinite to our conceptions." P. 189. But we had forgot, —we must beg Mr. Atkinson's pardon,—how could "those noblest experiments of the age by Mr. Crosse" have faded from our memory? And how ludicrous it is to see a man who professes himself a rigid follower of Bacon contented with such slender evidence as has yet been produced in behalf of Mr. Crosse's alleged discovery, which, were it real, would be without exception the greatest discovery yet made by man, and the beginning of a wholly new science. To hear Mr. Atkinson and the author of "The Vestiges of the Natural History of the Creation," on Mr. Crosse's experiment, one might be led to think that the highest quality of a Baco-

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nian philosopher was a sufficient amount of credulity. Here is a statement made which implies, that under certain merely physical agencies the matter of the crust of the earth has begun to live, and to perform all the ordinary functions of organic natures; and we are asked to believe the slender and unsupported evidence of this alleged gigantic discovery with as much *sang froid* as if it related merely to the discovery by a naturalist of some before undescribed species of mite, spider, or insect. By the rule of the philosophy which they seem to follow, were a man with the title of a geologist, after visiting Greece, to announce that he had discovered, in a fossil state, the genuine teeth of that species of dragon which Cadmus slew, and by sowing whose teeth he raised up armed men to assist him in building Thebes; and if he pretended that he had already obtained, on putting the teeth in moist earth, indications of the growth of human bones, thews, and sinews, we should be bound to disprove his statements before we became entitled to laugh at them. We will admit anything on sufficient proof,—even that the teeth of a dragon can germinate into armed men. But along with this concession to Mr. Atkinson, we must intimate our belief that there are embryo Kirchers and Pontopiddans even in our own age, while we affirm that to receive the marvellous without a corresponding

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weight of proof and testimony, is contrary to the whole scope of Bacon's philosophy. It is arrant folly in Mr. Atkinson, in the author of "The Vestiges," and in Mr. Crosse himself, to cry out that the experiments have been unjustly treated. They have met with as much attention as they deserved with the slight evidence produced on their behalf; particularly when the magnitude of the discovery, were it real, is considered, and when it is remembered during how many months each experiment lasted, and how prolific are the means by which so minute a tribe as the mite tribe to which Mr. Crosse's animals belong, insinuate themselves into almost every substance made use of by man in his domestic life.

The importance to be attached to Mr. Crosse's discovery, were it real, does not arise from any change which it would make on man's feeling, of the necessity of an infinite intelligent Creator, but simply as offering the basis of a kind of knowledge,—that of the laws according to which inert matter passes into the organic form and becomes endowed with life,—which all past experience seems to place beyond the limits of the inquiries in which man is permitted to succeed.

No person, who in the most superficial degree knows the natural history of the mite tribe, can feel satisfied that Mr. Crosse's animals did not

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derive their origin from some other source than his experiments, until the conditions necessary for their production shall have been laid down with such a degree of exactness that a multitude of competent persons shall be called forth to testify to their reality. Of mites or acari, the majority of the species are very minute, or almost microscopical. They are everywhere distributed. Some are wanderers; and among these, some are found under stones, leaves, the bark of trees, in the ground, the water, or upon provisions, such as flour, dried meat, old dry cheese, and upon putrid animal matters; others subsist as parasites upon the skin, and in the flesh of different animals, often greatly weakening them by their excessive multiplication. The origin of certain diseases, especially the itch, is attributed to them. The minute worm-like processes of sebaceous matter which can be squeezed out from beneath the black points on the skin of the face, and other parts of the surface of the human body, contain each an acarus perfectly formed. Other mites are found upon insects, and many beetles which subsist on cadaverous substances or excrement, are often entirely covered with them. The mites are oviparous, and exceedingly prolific.

When such are the circumstances of the case, how ridiculous is it in Mr. Atkinson, the author of "The Vestiges," and Mr. Crosse himself, to raise

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the cry of persecution. Mr. Crosse has suffered no other persecution than such as "Punch" inflicts on all persons of note enough for public mark who make themselves ridiculous. Mr. Crosse is weak enough to think that those who merely laugh at him would willingly make a martyr of him with fire and faggot; and yet, after all, it appears by a letter from him to Miss Martineau, that he does not deduce that conclusion from his experiments which Mr. Atkinson and the author of "The Vestiges" draw. Mr. Crosse says: "As to the appearance of the acari under long-continued electrical action, I have never in thought, word or deed given any one a right to suppose that I considered them as a creation, or even as a formation from inorganic matter."—(Appendix, p. 362.)—But it is with Mr. Atkinson that we have to do at present; and he unequivocally declares that success has actually attended an experiment in which inert matter is made by man's contrivance to pass into a living body. On this point we appeal from Mr. Atkinson to the authority of Bacon,—that authority which he professes so profoundly to reverence. Surely Bacon nowhere inculcates, that we are to found extensive schemes in explanation of the economy of nature on a single alleged fact, on one too which rests on insufficient and uncertain grounds,—like that inferred from Mr. Crosse's experiment; and unless Mr.

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Crosse's experiment be real, there is no fact whatever mentioned by Mr. Atkinson in support of his inference, "that every grain of dust contains the latent principle of human nature." Could we summon the shade of Bacon to sit in judgment on the speculations of his self-dubbed disciple, we feel assured that he would at once pronounce Mr. Atkinson a worshipper of some of those false divinities, the characters of which he has so graphically described. He would point him out as sitting at one time in his den, and, amidst the darkness, worshipping the genius of the place, while he sacrificed Truth to the suggestions of that darling but deceitful idol, "idolum specûs;" at another time as mistaking the mere show of false conceptions, the imposing glare of theatrical illusions for the truths of Nature; in short, as worshipping the "idola theatri;" and he would perhaps advise him to be less afraid of the idola tribûs and the idola fori,—that is, of the common conclusions of mankind, and of the views impressed on the mind by an intimacy with human affairs, than of the blinding conceits of his own mind, and of the deceitful perversions prevalent in small coteries of self-styled philosophers. He might perhaps tell him, that he was peculiarly apt by turns to fall into each of the species of false philosophy, the sophistical, the empirical, and the superstitious;

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that he was very far from having caught up the true spirit of his philosophy; and he might read to him his own well-known words: "The access to this work hath been by that port or passage which the Divine Majesty, who is unchangeable in his ways, doth infallibly continue and observe; that is, the felicity wherewith he hath blessed an humility of mind, such as rather laboureth to spell, and so by degrees to read, in the volumes of his creatures, than to solicit and urge, and, as it were, to invocate a man's own spirit to divine and give oracles unto him. For, as in the inquiry of Divine truth, the pride of men hath ever inclined to leave the oracles of God's word, and to vanish in the mixture of their own inventions; so in the selfsame manner, in inquisition of nature, they have ever left the oracles of God's works, and adored the deceiving and deformed imagery which the unequal mirrors of their own minds have represented unto them. Nay, it is a point fit and necessary in the front and beginning of this work, without hesitation or reservation to be professed, that it is no less true in this human kingdom of knowledge than in God's kingdom of heaven, that no man shall enter into it, *except he become first as a little child.*" He might add, that it was wholly foreign to his philosophy to rush to the positive at once, as he saw was his practice;

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that in so doing he usurped the prerogative of God, and angels, and higher intelligences; that man must cautiously proceed from negative to positive knowledge: "*Omnino Deo (formarum inditori et opifici) aut fortasse angelis et intelligentiis competit formas per affirmationem immediate nosse, atque ab initio contemplationis. Sed certe supra hominem est; cui tantum conceditur, procedere primo per negativas et postremo loco desinere in affirmationes post omnimodam exclusionem.*" And he would insist, that in the interpretation of Nature the first requisite is a faithful history of the phenomena, whether natural or experimental; and that, in this history, the greatest care is to be taken, which his self-styled pupil, in the case of Mr. Crosse's experiment, had wholly failed to exercise, to discriminate what is authentic and beyond a doubt, from what rests on insufficient or uncertain grounds.

But to return to the determination of the grounds on which the speculative question as to the nature of the origin of organic species should rest. It seems, in the first place, manifest that such an inquiry does not fall within the limits of inductive science, unless certain particular facts have been already established from which an induction could be made. The idea of inductive science without facts, on the subject to which it is applied, is a contradiction in terms; to reason from

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particulars to generals without being first in possession of the particulars, is a kind of bull in logic —it is a real case of counting the chickens before they are hatched. Before any one, then, who professes to confine himself to the philosophy of law—and this is particularly the boast of Mr. Atkinson and the author of "The Vestiges,"—can claim the right to speculate on the origin of anything which exists, he must show us that he has acquired a stock of facts bearing on the origin of the particular part of nature to which his reasonings apply. Mr. Atkinson, of course, will point to Mr. Crosse's experiment, since he has cited no other alleged fact, not even the common general dogma as to equivocal generation. That we cast aside. If Mr. Atkinson should say, What better right have we, with no greater knowledge of facts than himself, to form opinions on the origin of organic species, or of any other part of Nature?—we answer, He forgets that we acknowledge the existence of certain facts which he denies; namely, facts not learned by experience, but directly from the workings of our minds. That, like him, we see clearly by observation, that there must have been a time when no living thing, animal or vegetable, existed on the surface of our planet; we acknowledge that we cannot discover any law of Nature in accordance with which vegetable or

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animal life arose upon its surface: but that this mighty change took place at some epoch in Time is certain; and we feel compelled to declare our natural belief in the exercise of power in the production and development of that change. Into his system the notion of power does not enter: he sees nothing in that great change but the operation of Law. We, on the contrary, holding fast by this natural idea of the exercise of Power in that great event, proceed to deduce from the varied character of organic species, and the wonderful adjustment of their whole economy to the place which each occupies, the unity, the personality, the wisdom of that Power which the original constitution of the human mind has enabled us to conceive.

The author of "The Vestiges of the Natural History of the Creation,"—on which work Mr. Atkinson plainly relies to supply his own deficiencies in fact and argument, — has exercised infinitely greater caution than our author in his speculations on the origin of organic species. He nowhere professes himself a rigid follower of Bacon; he acknowledges an infinite personal First Cause, while he refers everything to laws originally established by him. There is however one great defect in his book; though he everywhere acknowledges this great personal First Cause, he does not exhibit the steps by which he arrives at the idea

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of the existence of such a Cause; and since he professes to give a complete view of the material universe, as developed by law from the state of a fire mist, first into suns, planets, and secondaries, and onwards to the rise of organic species, including himself and the organ by which he thinks, without indicating those phenomena of the human mind which suggest the idea of Power and a Creator, the reader is apt to rise from the perusal of his book with the impression that, though the word Creator is ever in his mouth, he has destroyed the evidence on which a belief in the existence of that Creator rests.

"The sum of all we have seen," he says, "of the phsychical constitution of man is, that its Almighty Author has destined it, like everything else, to be developed from inherent qualities, and to have a mode of action depending immediately on its own organization. Thus the whole appears complete on one principle. The masses of space are formed by law; *law makes them in due time theatres of existence* for plants and animals; sensation, disposition, intellect, are all in like manner developed and sustained in action by law. It is most interesting to observe into how small a field the whole of the mysteries of Nature thus ultimately resolve themselves. The inorganic has been thought to have one final comprehensive law, GRAVITATION. The

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organic, the other great department of mundane things, rests, in like manner, on one law, and that is DEVELOPMENT. Nor may even these be after all twain, but only branches of one still more comprehensive law, the expression of a unity flowing immediately from the One who is First and Last."

We have seen that man by nature possesses only two great sources of knowledge, namely; 1st. Intuitive truths, and truths derived from these independently of experience; 2ndly. The accumulations of experience and observation as to things without. The above passage plainly shows that the author of "The Vestiges" does not confine himself to these two great sources of knowledge; there can be no doubt that he, like Mr. Atkinson, is a worshipper of the "idola specûs," and of the "idola theatri." The passage above quoted is so general in its statements, that it can be attacked only in general terms. We shall, however, quote another passage, bearing directly on the subject under consideration; namely, the origin of organic species, which ought to be displayed in the full enormity of its deviation from the just rules of philosophising. "I do not see how, if natural causes are at all to be admitted in the case, we can stop short of a theory of progressive development, as the true explanation of the origin of organic nature. The idea which I form, and to which I trust to bring

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further support is, that the simplest and most primitive types, under a law to which that of like-production is subordinate, gave birth to a type superior to it in compositeness of organization and endowment of faculties; that this again produced the next higher, and so on to the highest; the advance being in all cases small, but not of any determinate extent. There has been, in short, a universal gestation of nature analogous to that of the individual being, and attended as little by circumstances of a startling or miraculous kind, as the silent advance of an ordinary mother from one week to another of her pregnancy." The simple answer to this hypothesis is, that it is unsupported by a single fact. It is one long tissue of conjectures. "The universal gestation of Nature" is a picturesque illustration of the "idolum theatri." It is a figure of thought of no higher authority in science, than if he had said organic species came forth from the womb of time. He confounds the alliances of forms, preconceived in the mind of the Creator, with the resemblances of the same forms when realized on the earth's surface. Allied species have never passed into each other in man's experience; and that, according to this author's geological views, now extends over millions upon millions of ages. We grant that the author of "The Vestiges" has here formed a conception which, in his closet, is

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legitimate enough; but he had no right to put it forth as a piece of philosophy till he had found some facts of which it might be regarded as the generalization. All the laws which have been yet discovered, having any bearing on this point, carry us to a totally opposite inference. Nature guards the distinction of species with sedulous care. When monstrosities have been produced by the artifice of man, whether in the vegetable or animal kingdom, they either perish without progeny, or if they reproduce, the offspring tends uniformly when released from the constraining conditions, to return to the original characters of the species from which a deviation had occurred. He assumes that the animals of one geological era must have given birth by generation to those of the succeeding era. Where have the remains of the transition-animals from species to species been discovered? The idea abounds with the most flagrant assumptions. And after all, there is no proper analogy between the development of the human embryo in the uterus, and what is called the development of the vertebrate part of the animal kingdom through successive geological periods. There is, unquestionably, an analogy between the development of the human embryo, and the development of the ova of the lowest types of the vertebrata; namely, fishes. And in the progress of the development of the human embryo,

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there are produced some points of structure, destined afterwards to disappear, which do resemble, in a manner, a few permanent parts of structure in animals beneath man in the scale of being; but these resemblances should create no surprise, when the whole subject of the unity of organic structure throughout organized nature is carefully considered. The real cause for surprise is not that certain such resemblances occur, but that the development of the embryo should not proceed uniformly onwards to its destined type, and should sometimes retrograde for a time according to a fixed law; that is, that parts should form not necessary for the ultimate type, afterwards requiring to be removed by the developing power. But really the hypothesis is too poetical to be dealt with by the rules of inductive science—it ranks with the metamorphoses of Ovid. It implies, that when the parentage of the human race became vertebrate, the first, that is the first vertebrate, man, was a fish,—and an odd fish he must have been. What cannibals men are to eat their ancestors with such gusto! The next character in which man appears, according to this hypothesis, is in that of the frog-tribe—and who that has remarked how a frog swims, will fail to urge how perfectly man has retained this characteristic of his croaking ancestor? On this side of the channel we escape the charge of canni-

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balism, in the case of the frog. Traces of this alleged long ancestry of man through the vertebrated chain, our author will readily find in the common speech of men in every country—sharks everywhere occur among men; crocodile's tears are still sometimes shed in human society; there are geese as well as numerous asses spread about on every side; and there are not wanting bears, wolves in sheeps' clothing, and foxes of all colours.

As we are anxious to put no restriction on the legitimate subjects of human inquiry, before leaving this topic we shall endeavour to place it in its proper light among the objects of man's curiosity. There are many who think that the subject lies wholly beyond the limits of human inquiry. We are undoubtedly of that opinion. But nevertheless, we do not consider the nature of the case to be such as to warrant our altogether forbidding the inquiry. Let us, therefore, consider how the matter stands.

It is an incontrovertible proposition, that there was a time when no living thing, vegetable or animal, existed on the surface of our planet. On that surface the materials of all organic bodies are present in the mineral state. Everywhere the elementary constituents of the human body, fifteen in number, are met with in the requisite quantity to produce all that is material in the frame of man.

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Is it, then, a legitimate inquiry to attempt to ascertain under what conditions these fifteen elementary substances originally united to produce the material frame of the first individual, or pair of individuals, from whom, by generation, all the rest of men in long succession have been since propagated? Our answer is in the affirmative; yet not without an important qualification. To set aside this question on the plea that as referring to the origin of things it cannot fall under inductive science, is to assume, without sufficient reason, that it cannot at any future time come under that form of science. No one who takes a correct view of the principles of inductive science will attach any other signification to the proposition that man in vain strives to fathom this question, than that experience has not yet supplied any trustworthy evidence of facts on which the solution of the problem can be made to rest. There cannot be any general principle or law from which the conditions necessary for the transition of mineral matter into organic forms could be deduced or established *à priori*; and this may be safely affirmed, because such a principle must either rest on the truths acknowledged without experience by the human mind, or must be founded on facts determined by experience. But the human mind supplies nothing bearing on these conditions but the belief

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that an exercise of power took place when life first appeared upon the earth; and the principles professing to be founded on facts which have been applied by Mr. Atkinson and others to this question, are pseudo-principles, involving a "petitio principii," because it is assumed in these, that life and organisation are original susceptibilities of inert matter. Yet it must be confessed that, however little probable, it is nevertheless possible, for man to conceive that life may originate under conditions previously operating in nature; and, therefore, that it is not impossible that observation may discover facts which shall lead to a knowledge of the conditions ordained for its commencement from the matter of the earth. The proper mode, then, of dealing with the attempts to account for the origin of living things, is easily understood. Let the evidence bearing on the origin of new organisations be brought forward,—and let us listen to it, try it by the common standards of truth in inductive science, and reject or receive it according to its intrinsic merits or demerits; and by so doing we shall be sure that we are conforming to the precepts of the Baconian philosophy. If there be any foundation for the belief entertained by some in what is called equivocal generation, let the evidence be forthcoming, and let Mr. Crosse's experiments be subjected to new trials. But it is with the general

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principle alone that we wish to deal at present; and the view we wish to adopt may be summed up in one word,—"that the inquiry into the origins of things and of organic species is illegitimate in inductive science, so long only as particular observations whereon to rest such an inquiry are inaccessible. Until such particulars are obtained, there is plainly no kind of philosophy which permits the inquiry. Till then it is altogether illegitimate.

But, suppose the conditions on which inert matter passes into organic bodies were actually made known, —it would not follow that any support would thence arise to Mr. Atkinson's atheistical conclusions. Let us assume that science can disclose the mode in which the fifteen elementary substances of the crust of the earth before referred to originally passed into the material frame of the first pair of human beings, the discovery would consist in the knowledge of the law or laws according to which this wonderful conversion of inert matter into the parent stock of our race took place. As to the really efficient cause, the power which operated, there would not be any further indication than that feeling attendant on all changes in nature, that an act of power had been exerted. That is, notwithstanding the defect of all indication of power in the materials concerned in the change, there would be an unequivocal feeling of the exercise of power impressed on the

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mind by the contemplation of the effect even in idea, and much more if it were actually witnessed—as in every case of change in the phenomena of Nature—and there would be an irresistible tendency to regard that intuitive feeling of the exercise of Power as referring to the exercise of conscious power, great in proportion to the magnitude of the event contemplated. In short, we may rest assured, that could we witness any steps in the process by which inert matter passed originally into organic species, the feeling of the exercise of Power, conscious in itself, that would arise in every mind, would be nearly as strong and impressive as if the finger of Omnipotence were actually seen to mould the spiritless clay into a living form. What we here suppose to have been discovered is nothing more than the mode in which it may have pleased the Author of Nature to carry his purposes into effect. Nothing which inductive science can place before our minds can ever dispense with the creative will of a conscious intelligence. It would, in short, be as easy for each individual to believe that his fellow-men, engaged around him in the busy pursuits of life, are mere automata destitute of consciousness, as for an unsophisticated person to believe that man could spring out of the inert matter of the earth without the will of a conscious, omnipotent Cause.

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It is not worth while, then, to be angry with those opinions which ascribe the origin of plants and animals to the concurrence of atoms, to the aggregation of monads, or to pre-existing germs. These dogmas are exactly worth the value of the evidence in the shape of observed facts, if any such can be brought forward to support them—and not a rush or a straw beyond that. There may be much folly in them, and sometimes the intent of atheism; but there is not really anything more than the intent of atheism. There is nothing in them, even if they were realized, which, by fair reasoning from the assumptions, infers atheism—though a great deal that is wholly unphilosophical.

XV.

THE PHENOMENA OF MIND LOGICALLY DISTINCT FROM THE PHENOMENA OF MATTER.

It is inculcated throughout the work before us, that "there are not two philosophies, one for mind and another for matter"—that "mind is the product of the brain; that it is not a thing having its seat or home in the brain; but that it is the manifestation or expression of the brain in action,—

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as heat and light are of fire, and fragrance of the flower; that the brain is not the instrument of the mind." Thus, according to Mr. Atkinson, every act of consciousness must be, not the result of a change on the material structure of the brain, but the actual change itself which is every moment taking place in a train of successive thoughts. That is, sensations, remembrances, conceptions, judgments, volitions, emotions, desires, aversions, are changes on the cerebral matter analogous to the change which takes place in the combustion of a piece of wood. "And what," he says, "are the instinct of animals and the mind of man but a result of chemical action, or material process?" P. 257.

But the cerebral matter, different as the endowments of the several central parts must be, is homogeneous or nearly homogeneous in its composition. And the only kind of chemical change that we can conceive to occur in the cerebral substance, during these several phenomena of consciousness, is of the nature of a decomposition. There must therefore be, according to Mr. Atkinson's hypothesis, a mode of cerebral decomposition corresponding to every individual state of consciousness, or what is the same thing, to every shade of thought that can possibly occur. Nay rather, as "mind is the product of the brain," there is a new

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chemical compound formed from the brain by decomposition, whenever a new sensation, a new conception, a new volition, a new emotion arises. Or, in truth, if we follow out Mr. Atkinson's hypothesis, all our modes of sensation, thought, and feeling, are so many chemical compounds formed by decomposition from the cerebral matter. We have no difficulty in understanding that a change, or decomposition of the cerebral matter attends every act of consciousness; but as the change, the possibility or the likelihood of which we admit would be nearly the same, whatever were the nature of the act of consciousness by which it is produced, that admission involves nothing incompatible with what is observed and known as to the products of the decomposition of cerebral matter. If Mr. Atkinson affirms that his proposition includes the supposition of mechanical as well as chemical alterations on the brain, we say that mechanical changes point merely to vibrations—and that these are purely hypothetical, and a mere revival of the exploded system of Hartley. But why dwell longer on so absurd and gratuitous a hypothesis as—that the brain is not the organ of the mind, but the mind itself? The action of the brain is consciousness,—and surely to confound consciousness with any form or property of matter, is the same kind of absurd error as to confound the sen-

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sation of heat with the quality of heat in an external body. And, in like manner, to confound the phenomena of consciousness in general with the properties of extension, hardness, softness, or with the phenomena of light or electricity, is the same kind of logical error. The phenomena of consciousness are *sui generis*. The action of the brain is concerned in their production; but its fitness for that office depends on something more than its mere organic structure—witness the suspension of its power by slight accidents, and the loss of it at the moment of death, before there is time for any considerable physical alteration. To explain how the brain acts in the phenomena of consciousness is beyond what is permitted to physiology—neither need it surprise us, that Nature withholds this great secret from men; though the eye be the organ of vision and the ear that of hearing, it is not the eye which sees nor the ear which hears.

Mr. Atkinson must not suppose because the whole external world is known to man merely as an object of consciousness, that there is therefore no proper logical distinction between the phenomena of matter represented to him by his consciousness, and the peculiar workings of his own mind also represented to him by his consciousness. Let Mr. Atkinson exchange his present scepticism

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as to the existence of mind for the scepticism of Pyrrho; that is, let him believe that there is no thinking being but himself in the universe; and that that universe consists merely of his own trains of thought—still the distinction holds good between the phenomena which we refer to an external world, and those which each man refers to the workings of his own mind. Sensations, remembrances, conceptions, comparisons, would appear to a Pyrrhonist to differ as widely as they do to us from caloric, vibration, shadow, sun-rise and sun-set. But if even a Pyrrhonist cannot destroy the logical clear distinction between what other men know as the external and the internal; surely the difference between the operations of the mind and the external phenomena, which become known by these operations, must be of an inextinguishable character. Let Mr. Atkinson reflect by what steps he has arrived at his present dogma, "that there are not two philosophies, one for mind, and another for matter;" and we almost expect that he will see how little his course has been chosen in obedience to the precepts of Bacon. When Mr. Atkinson first awoke to consciousness, he, like other men, knew nothing in the universe but self; he was the one known existence,—now feeling, now remembering; now enjoying, now suffering; it was now self combined with feeling; now self combined with remem-

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bering; again self combined with enjoyment; then self combined with suffering—self was an indivisible unit capable of existing combined with these several different adjuncts: and now our unit begins to discover that there is an external, a something which will not combine with itself—this external is nothing but the negative of self: at first self includes the bodily frame; by-and-bye the unit discovers that the bodily frame belongs to external nature, and feels that however necessary it may be, like many of the things without, for the maintenance of existence, it forms no essential part of the real unit—self. Here, then, are the successive steps by which man arrives at the distinction between mind and body. It is impossible to deny that these steps constitute a natural process of thought in every intelligent human breast. It is a process which, by the constitution of our nature, every man above the development of idiocy must go through. It is idle to urge, that to denote this indivisible unit—self, man employs words drawn from mere attenuated forms of matter;—such as *animus* and *spiritus*: it is not the words, nor the forms of matter to which they were originally applicable, that suggest the idea; the idea itself is plainly natural to the human mind, and the words chosen to express it show at least most clearly that the negative of matter or body is designed to be denoted. But

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Mr. Atkinson will exclaim, when the function of the brain becomes known to men, then this first notion must be cast aside. In a general manner the office of the brain has been known for some thousands of years. Our author must not flatter himself with the idea that it is only the moderns who could reproach him and Miss Martineau with having no brains. If he had lived in Æsop's time he might have met with the same reproach, "*ὦ οἵα κεφαλὴ καὶ ἐγκέφαλον οὐκ ἔχει*,"—*Oh! what a head, but it has no brains*, says the fox to the player's mask; and in like strain our own Shakspere says,

> "Not Hercules could have knocked out his brains,
> For he had none."

It appears, then, that men early discovered that the brain is concerned in the operations of intellect, without feeling it necessary to lay aside their natural belief in the logical distinction between mind and matter. It is plainly the unity of self which compels men to regard it as the negative of matter. And Mr. Atkinson will find that even phrenology cannot destroy the unity of self—the mind is truly a substance inexplicably connected with the body; and though this substance cannot be shown detached from the brain, yet the brain can be shown deprived of this substance without having lost any perceptible part of its structure.

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Mr. Atkinson will say, How can there be a substance which is not material? We ask him in turn, What is matter? Surely nothing is known of matter except its properties; it is a group of properties, and these properties conceived by an act of mind to constitute a unity—extension, resistance, impenetrability. What, then, is mind?—that which is capable of sensation; which remembers, conceives, judges, wills, desires, etc., while the self, under all these states of consciousness, maintains its unity and identity unbroken, undisturbed. Mind, then, and matter, are two essentially distinct substances —mind is indispensable for the very conception of matter, and matter in our experience necessary for the manifestation of mind. But in any logical sense it is far more absurd to say that matter is the source of mind, than to say that mind is the source of matter. Mr. Atkinson says, in one place, "The same reasoning which induces the conclusion that the brain is the instrument of the mind, must force a consistent man to conclude that the steam-engine is not the machine producing, but the instrument of that which is produced by its action; or that the galvanic apparatus is the instrument of a galvanic will or power." P. 18. Here our author, after his old trick, again begs the question;—yet we think even Mr. Atkinson will not deny that the ordinary effect of the steam-engine is a pre-conceived

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purpose of the human mind, and so that it really is in one sense the instrument of its effect. The steam-engine is the application of certain properties of bodies and laws of nature to the accomplishment of man's wants. Man having observed, remembered, and compared numerous properties of bodies and laws of nature, is able,—not always, however, without repeated failures, in which failures he differs in like acts from other animals,—to subject these properties and laws to his will, when the desire to produce a certain effect has arisen in his mind. In like manner, in passive states of mind, trains of mental phenomena arise in obedience to certain laws, and, by attention to these laws, the self which is then passive or suffers, knows, when a desire arises, how to employ these laws of the mental phenomena to accomplish the desire which has arisen. Reflex muscular acts arise in consequence of external impressions, and take place through the nervous centre without any consciousness or act of volition; but some acts which are of this kind at first can afterwards be exercised in obedience to the will. Thus the self can employ many of the laws regulating reflex acts to command these acts. But who can say that the act of volition which thus commences the train of action is an effect of nervous organization? And the same view is applicable to the control of the self over

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trains of thought; volition is always felt to be an independent act of self—an act not overruled by any before observed laws. It is a fact, resting on the highest kind of evidence known in human pursuits, that the will of man, within certain limits, controls his thoughts in efforts after invention, and, when the invention is completed, directs it at option to the purposes to which it is applicable; how then can it be denied, that the will of man differs by all that is conceivable of difference in kind, from such facts as that water at a certain temperature passes into steam, and that soft iron becomes for the time magnetic when made part of the galvanic circuit between the opposite poles?

XVI.

PHRENOLOGY AND MESMERISM.

Mr. Atkinson claims for himself a high place in Phrenology and Mesmerism. "Gall," he says, "was the first to discover a clue to the difficulty, —to that which Socrates thought important; but so difficult and profound as to require 'a Delian diver' to find it out. Gall discovered the relation between the development of the brain and the several faculties of the mind, and demonstrated the

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true method of dissecting the brain by tracing out the origin and course of the nerves and fibrous structure; the common method being to slice it through, as if you were cutting up a turnip." * * * "Gall proved that each faculty of the mind was a consequence of the action of a particular position of the brain, and thus laid the foundation of the science of mind." * * * "Very little had been ascertained by these various means, even after nearly half a century, beyond the original discoveries of Gall, with a few additions by his pupil and fellow-labourer, Spurzheim. On first looking into Phrenology, I felt the want of some additional means of observation, and the unsatisfactory and imperfect condition of the science. I found the phrenologists to be, for the most part, ignorant of anatomy, and of the labours of philosophers, and resting with the same confidence and presumption on their thirty or forty organs as some others do upon their Thirty-nine Articles of faith. I am not at all surprised, therefore, at the reception Phrenology has met with from the scientific world; for it was easy to reject the whole where there was really so much error. Phrenologists were dogmatizing and fortune-telling with strange incaution, and disgusting people by their presumption and blundering, while the subject was yet in its infancy, and all were professors and few were students at the

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very commencement of the inquiry." * * * "Phrenology has been a glaring instance of the evil of making too great a show of exactness and method." * * * * * "What is the brain?—The brain is the organ from whose action arises all that class of phenomena which we term mind: in which I include all our sensations, perceptions, emotions, judgments, and intuitions; consciousness, will, and certain forces which tend to regulate, stimulate, and control the other functions of the body. This, you perceive, is giving to the brain a larger sphere of action than is assigned to it in the works on Phrenology. I differ also from phrenologists in this,—that I consider consciousness, will, pleasing or painful sensations, etc., to be distinct faculties, and the functions of special organs." P. 29.

We look in vain for the evidence upon which Mr. Atkinson has determined that particular parts of the brain are appropriated as the organs severally of consciousness, of will, of pleasing emotions, and of painful emotions. On this head he gives us no satisfaction. We plainly tell Mr. Atkinson that we will not take an affected reverence for Bacon for a real compliance with his precepts. Here he has manifestly incurred the reproach, in Bacon's words, which Mr. Atkinson applies to other phrenologists: "Bacon wisely says, when men dogmatize and lay down the principles of a science in its

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infancy with a show of completeness, it may add to the glory of the professor, but will not leave the science in a state of growth." P. 24. We begin to suspect that Mr. Atkinson has long since forgotten the allegiance he professed to Bacon, and now mistakes the breadth of Miss Martineau's credulity for the standard of truth. He holds all other phrenologists since Gall's time in supreme contempt. Alas for George Combe!—a man who has laboured on the subject for a life-time,—who has written books, and good ones too,—who has repeatedly crossed the Atlantic to instruct our brethren of the New World in the mysteries of the callipers!—his name is not even mentioned by Mr. Atkinson; he is lumped among the fortune-telling phrenologists who have disgusted the world. How complacent is self-sufficiency! Hear Mr. Atkinson whispering into Miss Martineau's ear, "What I have done I attribute to the light thrown upon the subject by the new means I have discovered and made use of, rather than to any superior ability or acuteness in myself. I am what I am,—a creature of necessity; I claim neither merit nor demerit." P. 30. All this affectation of muffling the trumpet of fame serves to introduce us to Mr. Atkinson's claim to the discovery of phreno-mesmerism; and we conjecture that the "new means" which he discovered are the application of mesmerism to detect the

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parts of the brain to which particular functions are assigned. "I observed," he says, "that under the influence of mesmerism some patients would spontaneously place their hand, or rather the ends of the fingers, on the part of the brain in action; and these persons were wholly ignorant of phrenology." P. 34. * * * "But I found that some of these sleepers were conscious of the action going on in the brain, and that when any feeling or sense was in existence, they could tell you the part of the brain that was in action. It was not pain, nor exactly pulsation, but a clear and peculiar sensation in the part in action. Here I found a second important channel of investigation under mesmerism." P. 36. Let us take a glance back at the kind of logic which Mr. Atkinson here talks: "The phrenologists were a set of boobies, disgusting the public with their fortune-telling. I discovered that persons under mesmerism touched the organs in action, and that some were even conscious of the part of the brain in which any sensation or feeling was taking place, and thus I reduced phrenology to an exact science." Now it is plain that it is only by a knowledge of the so-called organs of phrenology that Mr. Atkinson could know whether the mesmerized parties touched the right organs, and therefore that he knew before, all that he supposes mesmerism taught him; and in the

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case of the sleeper's discovery as suggestive of new seats of sense and feeling in the internal parts of the brain, that a PETITIO PRINCIPII is involved, since it is plainly assumed, without proof, that mesmerism can point out to the patient the particular part of the brain concerned in the sensation or feeling in question. Mr. A. does not tell us whether the sleeper who can discover what part of his brain each sensation and feeling has its seat in, requires or not to be an anatomist, so as to be familiar with the component parts of the organ.

Our next quotation is as follows: "You know that some mesmerized persons are able to describe the condition of others by sympathetic sensations occurring in themselves. They sometimes go beyond this; but this is one stage. This is a sympathetic condition which I know to exist in some persons in their natural state; and it often occurs to those who mesmerize. While mesmerizing, they will feel pain in the part affected in the patient, and in some instances imbibe the disease. I have seldom experienced these pains when mesmerizing; but I have felt, when very sensitive from mesmerizing much, immediately on coming into the presence of my patients, where they were in pain at the time, and what was their condition of health." P. 37. Miss Martineau (whose pardon we beg for having nearly lost sight of her for some time

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past) puts a question to her master on this sympathetic feeling, which is really a poser: "By the way, can you tell me how it is that the mesmerizer feels the patient's sympathetic pain rather than the disease which causes it? For instance, when liver disorder causes pain in the shoulder, why does the hand of the mesmerizer swell in passing over the shoulder, and not the liver? Or does it in both?" P. 96. But enough of mesmerism for the present, —we designed merely to show in what manner Mr. Atkinson brought mesmerism to the aid of phrenology. We are to remember, then, that he considers mesmerism as the mind of phrenology; by which, be it remarked, he must intend to signify that the truth of phrenology rests on mesmerism. Phrenology professes to be a science resting on observation, on experience of the amount of development in the encephalon, corresponding to the activity of the faculty or propensity concerned. In his hands, observation of phrenological development signifies mesmeric observation; or his method of obeying the precepts of Bacon is, to use one pseudo-science to bolster up another pseudo-science. Mr. Atkinson really makes intolerable demands on our patience,—no man must believe in phrenology except through mesmerism. The phrenology which we must adopt is his phrenology, as corrected and improved through the agency of mesmerism.

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And this phrenology is an important element in the whole system of dogmatism maintained by Mr. Atkinson. He regards phrenology as the science of mind, and this science he considers as founded on observation, like the sciences of matter in general; he affects to discover the laws of mental phenomena on the same plan on which the laws of the planetary system are brought to light; and thus he thinks he succeeds in breaking down the distinct barrier between mental and physical phenomena.

Our first objection to the plan he adopts in regard to what he terms the philosophy of mind, is, that he employs mesmerism, as an improved source of knowledge, to collect so-called particulars, which he puts forward under the disguise of facts on mental science. Our second objection is, that he leaves altogether out of view the fund of knowledge bearing on the laws of mental phenomena, derived from the consciousness of each individual; and our third objection is, that he substitutes for the real science of mind in general, a theory invented to account for the peculiarities of intellectual and moral character in different individuals.

What we have now to say jointly concerns these several objections. The idea that phrenology is the science of mind proceeds on the monstrous fallacy that the points of difference among different individuals, in regard to mind, are great in com-

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parison with their points of agreement. Nothing is more certain than that great general laws are applicable to the mental phenomena of the whole human race, and that, compared to the great features of agreement in the mental operations of the whole human race, individual peculiarities make but a very slight figure. This is the chief foundation of the popular favour which phrenology has obtained, —it is not possible to describe any man's character without touching on some of the many points which are common to all mankind. Thus the unsuspicious votary hails with wonder statements of the most general kind as to his power of estimating size, or resistance, or number, or causality, or comparison, while all the time nothing is mentioned except what is common to him with his fellow-men in general. We affirm unhesitatingly, and appeal to the universal experience of men for the proof, that any sound-minded man chosen at random has a far greater number of points of agreement than he has points of difference, in his intellectual and moral character, with the men whose intellectual exertions have placed them at the head of the human race,—a Homer, a Socrates, a Plato, an Aristotle, an Archimedes, a Demosthenes, a Cicero, a Dante, a Raphael, an Angelo, a Shakspeare, a Milton, a Harvey, a Locke, a Newton. What an insignificant part, then, of the real science

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of mind must be contained in phrenology, which merely professes to account for the differences, slight as they are, by comparison with the great features of agreement! Were the conclusions of phrenology true, we should admit its importance, particularly as regards its bearing on education,—that is, on one of the practical arts connected with the philosophy of mind; but it is to be remembered at the same time that the means are in our power, independently of phrenology, of discovering those peculiarities of character, provided the requisite pains are used. But we judge from the epithet, fortune-telling, which Mr. Atkinson applies to the popular professors of phrenology, that he despises any such application of phrenology to the direction of education; and that he prizes phrenology, not in a practical but in a scientific point of view, as being that kind of science of mind which accords best with his assumption,—that everything in the universe is the result of material laws.

Surely Mr. Atkinson is not so blind as to suppose that by collecting the peculiarities of individuals, he can obtain particular facts from which by an inductive process the great laws of human thought will be determined. He might as well have expected to determine the chemical composition of marble by collecting and recording all the peculiarities of grain and colour of which such a mineral genus is susceptible. The great funda-

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mental laws of human thought cannot be reached by any study of individuals as objects of observation; the first and principal knowledge of these must arise in individual minds by reflection on the subjects of consciousness. The first step made by men in the science of mind was plainly the invention of names to denote the several distinct groups of phenomena, such as sensations, remembrances, conceptions, comparisons, volitions, emotions, desires, and the like; the importance of this step needs no illustration, and the difficulty attendant on it sufficiently appears from the want of exact agreement as to the proper signification of some of these terms even in our time. These names, without which the phenomena of mind, and even many of the common occurrences of life, could not have been intelligibly discoursed upon, were manifestly derived from reflection on the subjects of consciousness. Such names were all invented and bestowed with some accuracy long before phrenology was heard of. And, indeed, how could a man discover the difference between a remembrance and a sensation, or between a remembrance and a conception, by attending to what is passing in another man's mind? It must have been in his own consciousness that he learned the difference between these phenomena, and in like manner as to the rest of mental phenomena.

It is, then, a great error to point to phrenology

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as a new form of the science of mind raised up on the Baconian rule of observing sensible phenomena. In so far as it may contain detached fragments of the science of mind, these are not its own, nor are they derived from its own resources, but are plainly borrowed from that science of mind built up by reflection on the subjects of consciousness, which has existed at least from the era of the ancient Greek schools of philosophy. Even on the supposition that phrenology is true, what could it contribute to the general truths of the science of mind? The genus mind stood forth sufficiently in the works of Aristotle. It is with the species mind that phrenology deals: it had no occasion to teach us the discrimination of mental phenomena in general. Surely phrenology does not deny that mental phenomena may be properly arranged into some such groups as sensations, remembrances, conceptions, comparisons, volitions, emotions, desires, and the like; and surely it does not claim the merit of having invented, or even of having improved, this kind of methodical arrangement: and yet it makes use undoubtedly of these terms; for when it describes a man as possessing a well-developed faculty or propensity,—for example, that of form,—it is implied that he perceives forms exactly, that he remembers them well, that he conceives them readily when described, that he compares one

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form with another, so as at once to perceive their resemblance or difference, that he feels a strong desire to imitate forms, and that his muscular system yields a quick obedience to his volitions, when called into activity in drawing or otherwise delineating them. Thus every faculty exhibits the whole round of those general acts of consciousness which constitute the subject of general mental science. Every faculty is assumed as mind in miniature, susceptible of the sensations, remembrances, conceptions, comparisons, volitions, desires, emotions, related to one class of impressions. But the general laws which regulate these states of consciousness, comprehended under each faculty, the phrenologists profess to ignore as wholly useless; they confine what might be the really grand objects even of their system to the petty amusement of fortune-telling, with which fault Mr. Atkinson justly reproaches them, while he himself is content to find in the phrenological principle of mapping out the brain into regions appropriated to particular faculties, an argument in favour of thought being a mere emanation of matter, a product of the chemical decomposition of the cerebral substance. Has not mental philosophy far higher objects than these? Surely in our age there is room for more exact methods of thought, for increased precision in general terms—those materials of

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thought in all departments of knowledge,—for a more perfect understanding among men as to the standards of truth, and for the establishment of fundamental ideas as to the logic of science, but especially in the political and moral sciences, and to mental philosophy alone, can we look for the attainment of all these and many more objects most important to the advancement and welfare of our race.

Even when Mesmerism,—the *mind* of Phrenology, as Mr. Atkinson terms it,—is conjoined with phrenology, the united effect of these two pseudo-sciences does not reach an idea beyond what the cultivation of the science of mind on the ordinary metaphysical plan affords. We have nothing farther to do with mesmerism at present than its bearing on the cultivation of mental philosophy, though some parts of the passages about to be cited have an ulterior bearing. Let us suppose, then, the truth of mesmerism to be for a moment admitted: in the mesmeric state persons place their fingers on the organs of the head which are in activity; some also are conscious of the part of the brain in action at any time, or of pain left in the part when any faculty has been over-exerted; some, again, are able to describe the condition of others by sympathetic sensations occurring in themselves: and as to clairvoyance, in Mr. Atkinson's words, "we know that future events

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[illegible] with another, so as at once to perceive their [illegible] or difference, that he feels a strong [illegible] to imitate forms, and that his muscular [illegible] yields a quick obedience to his volitions, when called into activity in drawing or otherwise [illegible] them. Thus every faculty exhibits [illegible] kind of those general acts of consciousness which constitute the subject of general mental science. Every faculty is assumed as mind in general, susceptible of the sensations, remembrances, conceptions, comparisons, volitions, desires, etc. as related to one class of impressions. But the general laws which regulate these states of consciousness, comprehended under each faculty, the phrenologists profess to ignore as wholly useless; [illegible] what might be the really grand object even of their system to the petty amusement of [illegible]-mongering, with which fault Mr. Atkinson [illegible] them, while he himself is content to find in the phrenological principle of mapping the brain into regions appropriated to particular faculties, an argument in favour of thought being a mere emanation of matter, a product of the chemical decomposition of the cerebral substance. Has not mental philosophy far higher objects than these? Surely in our age there is room for more exact methods of thought, for increased [illegible] in general terms—those materials of

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are foreseen in dreams and trances; sometimes under the influence of mesmerism, and by some apparently in the ordinary condition of their lives. We know that some can see distant objects without the use of the eye; and that others can see, so to speak, through opaque objects, reading what is written in a closed book, and even the thoughts which are passing in the mind of another. We know that many under mesmerism can describe any diseased condition in themselves and in others within the sphere of their vision; that they have an instinct of remedies,—when a crisis will occur, and the cure will be effected, etc. There are some who have detected the properties of herbs, and of other substances, and can observe the structure, condition, action, and uses of parts of the animal frame." P. 51. We cannot help making the remark in passing, how much room, by casting away the belief in God, is left for faith in things otherwise incredible. Let all these claims, as we have already said, be admitted for a moment;—all, even if they were true, would add nothing to our knowledge of the nature of mental phenomena, and of the general laws of their succession. Let it be even supposed that by clairvoyance a person shall be able, for days together, to read the trains of thought passing through another's mind, as regards the mere examination of the laws of mental pheno-

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mena, he can obtain no essentially different insight from what he gains by reflecting on his own trains of thought. If a Lord Palmerston, sitting at the Foreign-office in London, can read the actual thoughts of a President of the United States at Washington, he will doubtless learn a certain number of facts to which, perhaps, he could not otherwise have had access; but he will discover nothing new as to the laws of sensations, memory, conception, imagination, judgment, etc.; nor will he be able thereby to benefit mankind by any new method of expressing or unraveling those complex ideas which, in an advanced state of society, render the exhibition of truth in certain kinds of knowledge to ordinary minds so difficult and so often unsuccessful. In short, mesmerism, were it true, by being applied in the present day, could add nothing to what is already known of the laws of human thought, since all that it could teach must consist of trains of thought of a character long since understood, and the utmost merit that it could claim as adding to the history of mental phenomena would be the pointing out of new channels by which such phenomena could be collected. And even in the additions which it could claim in this new field, it would be wholly indebted for its success to the knowledge of mind previously acquired by reflection on the subjects of consciousness,—a

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method of inquiry wholly different from that applicable to the discovery of the ordinary laws of the material universe.

The remarks we have hitherto made on phrenology and mesmerism relate less to the intrinsic merits or demerits of these pseudo-sciences themselves, than to the particular use which Mr. Atkinson makes of the same to bolster up his theory of the general system of the material universe, which, by reasoning in a circle, he attempts to connect with what he terms the laws of man's nature and development. And we think it clearly appears from what has been already said, particularly in this and the preceding section, that his view wholly fails to accomplish what he intended; namely, to break down the barrier between the phenomena of material nature and the phenomena of the human mind, so that the latter should be regarded as nothing more than examples of the operation of laws like those of the planetary motions, of which nothing can be directly known but the invariable succession of like phenomena under like circumstances. And, therefore, our position, maintained throughout this sketch, remains unshaken,—that the human mind is so constituted as to be impressed with certain truths independently of experience, and to be capable of discovering something more by reflection on the

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subjects of consciousness than what corresponds to the mere laws according to which physical phenomena take place.

Hitherto we have spoken of mesmerism merely in its relation to the general system of opinions on the whole of Nature entertained by Mr. Atkinson, perhaps one or two words should be added appropriate to mesmerism itself. Both Mr. Atkinson and Miss Martineau are practitioners in mesmerism. They speak of their patients, and compare notes as to their supposed experience in the treatment of diseases. We cite the following passage bearing on the treatment of diseases by mesmerism :—"Simple nervous pains seem to hang loosely upon the nerves, and pass away quickly under mesmerism; but when they have roots in some diseased condition, they take more hold, and protract the process of cure. I have found a diseased part and pain relieved more readily from the sympathetic points than from the part itself:—the sympathetic part seems to be the natural channel by which the disease diffuses, and so relieves itself. The question of sympathetic conditions in the same body is a question of great interest. It is a kind of mesmerism, or relieving of one part of the body by another. We put our hand to an aching part as instinctively as a dog licks a sore. It is an extremely interesting question how one disease may be made to cure another, as

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light destroys light: to see also how one person is cured by another taking the disease. I know mesmerizing doctors to have given diseases that they have brought from other houses to those whom they have mesmerized; and thus it may be a question if medical men are proper persons to mesmerize. The facts of contagion and infection, one would suppose, would have predisposed medical men to attend to mesmerism, and to appreciate the importance of the inquiry." P. 49. On this part of the subject we have elsewhere remarked, "As to the cure of diseases by mesmerism, it is contemptible, —as to the diagnosis by the same, it is worse than contemptible. The latter implies a supernatural clairvoyance, the grossest delusion that ever entered man's imagination; the former, in its most limited sphere, namely, as a means of exciting the imagination, may have sometimes a temporary success in mere functional paroxysms, on the same footing as the swallowing of live spiders, millepedes, or mere remedies not unknown in former ages. But, even within this limited range, the risk is greater than the advantage. And no one who knows the great truth, that it is Nature that cures diseases when the patient happens to be, or is designedly, placed in circumstances favourable for the unembarrassed exercise of the healing power inherent in the human constitution, need be at any loss

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to understand the slight foundation on which the partizans of mesmerism claim credit for it in occasional cases of recovery."—'Desultory Sketches.' By Dr. Bushnan. *Medical Times*, April, 1850.

In so far as the effects produced by mesmerism on some persons of susceptible constitution are real, they are of a morbid character, and closely allied to the phenomena of well-known diseases. The mesmeric trance is not natural sleep; it is closely allied to nightmare and sleep-walking, as both these are to epilepsy,—one of the most terrible diseases in the long catalogue of human maladies. The group of diseases to which epilepsy belongs is well-known to be brought on by imitation, and to be perpetuated by habit; and in many remarkable points of view, the mesmeric trance has a history completely analogous to that of the morbid conditions of the nervous system which have long been known to physicians. While then, as we have remarked in the paper just referred to, there is a degree of truth, that is, the reality of a morbid condition in mesmeric phenomena, "all the rest is delusion, collusion, fraud, and imbecility." In confirmation of this view of the nature of all that is true in mesmerism, we cite the following passage from an able paper entitled, "What is Mesmerism?" recently published by Dr. Alexander Wood, of Edinburgh;—"In conclusion, it may be remarked,

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that it were well that both operators and patients were more distinctly aware that the phenomena induced are those of disease. The predisponent causes are the same as those of chorea, epilepsy, and insanity. The phenomena accompanying the manifestations are, when otherwise induced, known to be the most dangerous means of producing other diseases. Excessive development of the imagination, or undue subjugation of that judgment which should direct the will, can never be mentally beneficial, but will, in all probability, be the reverse. Intense exercise of the fancy has a powerful effect on the organs, both of mind and body.—'The visionary,' says Feuchtersleben, 'is a candidate for the lunatic asylum.' To the pathologist such exhibitions are, undoubtedly, interesting as specimens of disease, and he will no more be inclined to turn from them with disgust, than from the morbid preparations so loathsome to the unprofessional eye. The philanthropist, however, will regard them in another light. He will consider them as additions to the catalogue of human woes,—morbid states induced to form the groundwork of philosophical investigation; or, worse still, to while away a passing hour. A calm consideration of them will serve to show that the physician is scarcely warranted to induce them, unless by their means he can banish a more powerful disease, or alleviate severe suffering; and

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were the non-professional public made aware of their real nature, they would surely come to the conclusion of the poet Spencer:

'Of all God's works which do this world adorne
There is noone more fair and excellent
Than is man's body, bothe for power and forme,
Whiles it is kept in sober government;
But none that is more foule and indecent,
Distempered through misrule and passion's bace
It grows a monster, free from all restraint,
Doth lose its dignity and native grace.'"

With phreno-mesmerism, of which as we have said Mr. Atkinson claims to be the discoverer, we lose all patience. It is too absurd to permit us to dwell upon it at length. We will therefore only remark, that the doctrine of phreno-mesmerism is controverted *in limine* by the alleged principle of mesmerism. The mesmeriser pretends to control the thoughts of the person mesmerised, who does precisely what Mr. Atkinson may ask him to do. He therefore pointing his fingers to the organs of veneration, and language, makes the mesmerised person sing a psalm:—What has this to do with phrenology? The mesmeriser sways the mind of the other, over whom his will has omnipotent control, and, independently of any organology, he sings a psalm, because the mesmeriser wills him to do so.

If mesmerism requires the aid of phrenology,

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then is the boasted mental influence of the mesmeriser completely annulled.

XVII.

CLAIRVOYANCE AND THE SUPERNATURAL.

At first sight it seems inconsistent that Mr. Atkinson and Miss Martineau should deal so largely in what has been usually called the supernatural, while they deny so confidently that there is a God in the universe, and that man has a soul. It should be remembered, however, that it has often been remarked how strangely scepticism and credulity are akin to each other. It cannot, indeed, be said with truth that credulity is always accompanied with some kind of scepticism; for credulity is sometimes a mere form of mental imbecility. But there are plainly many minds, if not exactly weak, at least ill-constituted, in which credulity and scepticism bear nearly an alternate sway. Perhaps it is because it requires credulity to believe in the arguments against the existence of an Omnipotent Intelligence, or else because, to keep up the persuasion that the belief in God has been shaken off, it is necessary to keep the faculty of

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belief occupied with something which it requires an effort to believe. Be this as it may, we cannot but think it will appear that Miss Martineau and Mr. Atkinson admit their faith in some things commonly called supernatural, the existence of which is incompatible with their dogma, that there is nothing in the universe but the workings of the physics and chemistry of matter. They deceive themselves by confining their attention at first to the facility with which the so-called supernatural appearances of physical nature have been brought under the ordinary laws of matter, and their independence of all connection with the general course of human affairs demonstrated. But here our authors will be found to have dug a pit for themselves. The primitive idea, that what is termed the preternatural in physical nature, comets, eclipses, showers of stones, thunder, warriors fighting in the air, double suns, and other phenomena of irregular refraction, indicate the unusual interference of superior beings with the established course of natural phenomena, and relatively with the good or ill fortune of men, is a clear illustration of the strength of two great original principles in man's constitution; namely, that an exercise of power is implied in the occurrence of the events of nature, great in proportion to the magnitude of each, and that when two events occur

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in immediate succession, the first stands to the second in the relation of cause and effect. The progress of men in the knowledge of the real laws of nature, and a more extended acquaintance with the causes which influence success and failure in human affairs, could not but put an end eventually to this primitive idea; so that, in our time, it has almost entirely disappeared. We have met, however, with a well-educated elderly gentleman, who stoutly maintains that that great comet of 1811, of the existence of which Miss Martineau says she never could obtain ocular proof, was the cause of the unrivaled excellence of the claret vintage of that year. Here the old idea lingers with tenacity, owing to the want of a distinct law of nature to show that the two events can have no connection with each other. Hitherto the events spoken of as supernatural are real events,—there being no misinterpretation except in their supposed connection with other events which are wholly independent of them. But there is a second description of the supernatural, which may be termed the supernatural in the mind of man, which clings with greater tenacity to human belief. Of this character are visions of what has not yet happened, reveries, second-sight, spectres and ghosts, intimations of one's own death, or of the death of friends or relatives at a distance, and announcements in general of what

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is still to the rest of men hidden in the future. This second description of the supernatural, by the progress of knowledge, has been confined within much narrower limits than among our ancestors; but owing to a multitude of causes, it still maintains its ground to a far greater extent than people of sober sense can easily account for. Among the causes which serve to perpetuate the belief in this description of the supernatural among men, there are: 1st. The impossibility of bringing the alleged phenomena uniformly to the test of sense, and man's past experience, as in the case of merely physical phenomena. 2nd. The natural love of the marvellous, which leads the majority of mankind to an almost boundless belief when no express means of contradiction are at the moment within reach, and the unintentional exaggeration of whatever people have been told as it passes from mouth to mouth. 3rd. The large increase in the proportion of invalid persons, chiefly of nervous temperament, in society, owing in a great measure to the diminished mortality among children of weak habit, among whom imagination, excessive sensibility, and credulity overpower sense and judgment. 4th. The deceptions of sense, especially of the sense of sight, in all mankind, when exercised under circumstances unfavourable to distinct and perfect vision; in which case, the prevailing

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emotion of the moment, rather than the impression on the retina, determines what is believed to be seen. 5th. Fraudulent imposition, to extract money from the credulous. 6th. The love of mischievous fun, which inspires many young persons, apparently of the most simple and honest character, with an irresistible propensity to make secret game of their seniors. 7th. The impossibility in most cases of making a perfect examination of the alleged phenomena.

It is easy to see how favourable all these circumstances are to the continued belief in the supernatural and in the alleged phenomena of clairvoyance. Even on the supposition that there is truth in clairvoyance, the amount of deception, connivance, and banter, which has been proved to take place among the recorded exhibitions, reduces the chance of truth to a very low figure. Hear Mr. Atkinson's *experimenta crucis* on the subject of intimations of deaths at a distance, and let us not forget how boastful he is of having imbibed the true Baconian love of truth in facts: "I myself, while sitting up with a lady who from extreme ill health could be held alive only by being kept continually in a mesmeric state, on two occasions, in the quiet of the night, have known her recognize the death, at the moment of its occurring, of persons at a distance, whose immediate danger was unknown. On one occasion it was a clear sight

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of the fact and circumstances, though occurring a hundred miles away. This was when the dying person was a relation; but in the other instance there was no relationship. The person was very ill, like herself, and it was a case with which she had great sympathy. The intimation of the death appeared in the form of a black cat coming over her bed, which to her was the associated form of evil and death." P. 198. We do not belong to the small circle of Atheists who are privileged to believe such a statement as this. Hear, again, what Mr. Atkinson says on the same subject, the grounds of his dicta on such points being, as before, kept out of view: "The influence of dying persons on those at a distance is usually received by those who have, in some way, been brought into relation or *rapport* with the dying person: and the influence is generally received during sleep, when the internal senses are freed from the ordinary senses, and qualified to receive direct influences from without. Any change occurring in the condition of those with whom they were held more immediately in relation (magnetic relation I will call it), would be felt, and awake attention, just as any change upon our ordinary senses, either when awake or sleeping, arouses attention,—such as a candle going out when one is asleep, or a strange noise occurring, or a familiar one ceasing. Again: a person dying is often more

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or less falling into the trance-condition, the bodily condition weakening, and the senses either becoming more acute, or the spirit-condition of the brain has a freer communication, or inter-relation with the universal medium without the dying person. Thinking of the individual impressed may be sometimes a condition of the effect; but this is far from being an universal cause. Persons are held in relation, as it were, by threads, the slightest alteration or loosening of which arrests attention, and gives the impression. A somnambule or mesmerized person has much more influence in mesmerizing than a person in the normal state; and many a dying person partakes of this condition. I have known a dying child mesmerize a strong man by a few waves of the hand, the man having previously resisted the influence of powerful mesmerism." * * * * * "When diseases are dying out, they influence others. It is even so with a common cold, which passes away to another; and so, likewise, the state of the dying person influences,—flies off, as it were, disturbs or influences the universal medium; and thus reaches those in whom there was *rapport*, if they be in a fit condition to receive. Generally the time most fitted to receive impressions of this nature is in a second sleep. I should not think that such a death would be felt like those in which a more trance-like state occurs, or where there is a blazing

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up and going out at once. In such a case as this last, I have no doubt that a sensitive person would see light emitted. Experiments might be made with the sensitive upon dying animals. A trance or fainting fit sometimes impresses persons at a distance in the same way as a death, and it is believed that death has occurred. The presentiment of death is the intuitive faculty influenced by the changing condition, and by the intuitive condition perhaps of the dying person. The intuitive sense seems to act often unconsciously; but the same state may become consciousness to another. The foreseeing events, or prophecy, seems to be the least comprehensible form of these singularly interesting phenomena. To estimate properly the effects of persons dying, we require more correct data as to time and circumstance; and it is difficult to attain this. But of the existence of the fact, I have evidence in the form of many good instances, and so have you; and most persons have some case of the kind to relate. When the dying person appears to another in a form, such as of a black cat, or a shadow, or as a person, it is merely an induced condition, or subjective embodiment of an impression made. How any one can conclude otherwise, seems marvellous. When a man is dead, he is dead,—as a magnet is dead when the magnetic force is removed A diamond is dead when

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it becomes charcoal; a certain constrained force, so to speak, is released, and this it is which influences. In every change force is released, and a disturbance caused." Pp. 277, 280.

If there be any such supernatural things in the mind of man as are described in the passages here cited, Mr. Atkinson grossly deceives himself if he thinks they can be accounted for, like the so-called supernatural occurrences of the physical world before spoken of, by a mere reference to the established laws of Nature. Mr. Atkinson owns his belief in things spiritual, — in things which do not obtain explanation by any properties, analogies, or laws, known or conceivable in mere physical nature. He says that men can predict future events independently of mesmerism—that some men, in their ordinary state of life, can predict future events. What does this amount to? How does this admission accord with his dogma, that there is nothing in the universe,—that there is nothing in the inorganic or the organic world but matter worked into its several forms in accordance with the laws of physics and chemistry? According to his dogma, life is nothing but organism, mind is nothing but organism,—and organism is nothing but the dust of the earth, which, under the operation of physical conditions—that is, under the operation of physical conditions of so rare con-

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currence, that in the present system of things that concurrence seems to have taken place but once for each species of animals—has assorted itself in the nice proportions required for the peculiar structures of the existing animal kingdom. Mr. Atkinson does not perceive any difficulty in the supposition, that the thinking organism of man's brain should be produced by the mere affinities of the elementary substances which enter into its composition, and that the operation of external impressions made upon it through the nerves should determine it to various processes of thought, desire, emotion, and action, on things without, through the muscular system,—all these, according to him, are so many chemical changes wrought on the elementary particles composing the brain by physical influences extending to it from without; and we so far agree with him, as to believe that a chemical change does occur on some part of the brain as often as any such exertion of its function takes place. But when he says that the chemical change which has just occurred in one man's brain can be sympathised with in another man's brain at a distance, even in an opposite quarter of the globe, or that such a chemical change in the brain of one individual shall prefigure, in an intelligible form, the result of nice chemical changes, which are to take place during months or years in the brains of thousands of indi-

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viduals, bound neither to it nor to each other by any tie acknowledged in the laws of chemistry, then we affirm that his conclusion holds nothing in common with his premises.

Mr. Atkinson cites the fulfilment of various predictions for the purpose of showing, according to our interpretation of his views, that the chemical action of the brain in one individual can intelligibly represent the results of the nicest and most complex kinds of chemical action in the brains of thousands of persons during a succession of years. To prove that we are not trifling with the reader, we must be allowed to quote a passage already cited: "What are the instinct of animals and the mind of man but a result of chemical action or material process?" P. 257. But to return to the chemical process in one brain, which embodies intelligibly the sum of the like actions in thousands of brains during a succession of years, Mr. Atkinson cites several predictions, afterwards accomplished, from the life of Joan of Arc; among others, the following:—On the 1st of March, 1430, Joan made the following predictions: "Before seven years are past, the English will abandon a larger prize than they have done before Orleans, and will lose every thing in France. They will experience the severest loss they have ever felt in France, and this will be by a great victory which God will bestow on the French." Mr. Atkinson

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then enters into particulars, to show that this prediction was literally fulfilled; the great victory referred to being at the distance of twenty, if not twenty-two, years from the date of the prediction. Let the reader only cast one passing glance on the monstrous absurdity which our author's mode of viewing this subject brings upon him—a few chemical changes in the brain of one individual, representing in an intelligible form, the result of thousands of forms of chemical changes thereafter to take place, on the brains of millions of Frenchmen and Englishmen, during a period of twenty years! Does Mr. Atkinson say what he refers to is simply a matter of fact? It is not our business at present to dispute his fact—we grant him the full benefit of it. But we are entitled to ask him to reconcile his so-called fact with the dogma as to the chemical character of mind which runs through his book. If he say, that it is not more difficult to conceive Joan of Arc's prediction twenty years before the event, as a chemical action of the brain, than it is to conceive, as an action of the same kind, the prediction that if a cannon ball be dropt from the hand at the top of the Tower of Pisa, it will fall to the ground. We do not say that it is easy to conceive the latter prediction to be the result of a chemical action of the brain; but we say it falls within his general category, when he affirms that ordinary acts of

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mind are the result of the chemical action of the brain, which the other does not. His doctrine is, that men know nothing but the laws of Nature, and that by a knowledge of these laws they can predict such events as fall under these laws; and he regards the apprehension of any law, and the prediction derived from it, as two separate chemical changes of the brain — the one change here, on his assumption, can be logically conceived to arise out of the other, without any absolute contradiction; but when the prediction does not fall under any law which has produced a previous chemical change on the brain, whence could it have arisen? Here we think Mr. Atkinson is found in a dilemma. Which of his *ipse dixits* will he surrender? None, does he say? The prediction of future events (does he say?) is tantamount to a law of Nature; it rests upon evidence. We answer, that is the same thing as if a clown should say it is a law of nature that philosophers predict eclipses. Now, philosophers when they predict eclipses, predict them in obedience to previously observed laws. Did Joan of Arc predict the expulsion of the English from France in obedience to any previously observed laws of human affairs? We do not say it is impossible that laws may be discovered, in obedience to which human affairs will be found to proceed so certainly that the issue of events may be predicted

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without fear of failure. But surely Mr. Atkinson does not allege, that this heroine had so far advanced beyond even our age as to found her predictions on such grounds? If not, we must, on Mr. Atkinson's theory, recur to the predictions as a result of a so-called chemical action of the inexplicable nature before referred to, setting all the laws of affinity, and, indeed, all the laws of physical nature at the most direct defiance. Will Mr. Atkinson make another effort? Does he say that it is not inconceivable that the eternal laws of matter may have so moulded Joan of Arc's brain as that its chemical activity should give forth certain predictions? Then our author must give up his dogma, that man (and woman also) knows nothing but law. This is plainly to admit a kind of inspiration by the eternal laws of matter. Our author will say it is inspiration; but then it is mesmeric inspiration. He said, however, on one occasion, that persons in their ordinary state of life can predict future events. But it would be cruel to hold him to the statement. Let the inspiration be mesmeric: it still must be through the alleged chemical action of the brain. Now it is inspiration of a mesmeric character through chemical action of the brain as to events, the laws regulating which are wholly unknown to the party who foretells them. This, then, is Clairvoyance. And we see it involves

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the absurdity before referred to, that chemical action of the brain can intelligibly represent the coming result of thousands of like chemical actions in the brains of whole nations during a long succession of future years.

It is plainly altogether impossible to reconcile the idea of thought being the result of chemical action with any kind of prediction beyond what directly flows from a principle which includes the prediction. And this rule extends to all the forms of clairvoyance,—or Mr. Atkinson must make his election, and either give up clairvoyance, or confess that there is something more in the operations of the human mind than what is analogous to chemical or any other kind of material action. The predicting of future events, not comprised in any principle of knowledge of which the agent is conscious, can depend only on the existence of a principle of knowledge, including such events of the ordinary operation of which the agent is unconscious. And thus, if it were established that a person in the mesmeric state can predict future events, the idea that the mind is material would be effectually destroyed: for the consciousness of existence and of the performance of mental acts, is the beginning of all human knowledge. The idea of matter is as of that which is neither conscious of existence nor of the performance of any acts. In short, our idea

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of matter is a mere negative of that of mind; and though men may afterwards conceive the idea that mind may be dependent on a peculiar organization of matter, and may reason in defence of that idea from the structure of the brain, yet they can uphold this idea only by regarding sense as the sole source of intellectual operations, and by confining the operations of mind to the mere modification of what had entered it by the senses. This view is so well known to materialists, and so fully admitted by them, that it needs no further illustration. We utterly reject such a view: but it is the principle on which Mr. Atkinson has bound himself to reason; and hence he must adopt the conclusion, that unless the elements of a prediction,—that is, a law sufficient to include it, had first entered by the senses,—it is inconceivable that that prediction could have been made by a material mind.

We trust, however, to the reader distinctly understanding that we do not admit that any mere chemistry of the cerebral atoms can explain acts of thought—far less such acts as predictions, even when these are included in previously understood laws; and that we distinctly disclaim the error, that no ideas can arise in the mind except such as have entered from without. These statements we have used as one who had adopted Mr. Atkinson's views might employ them; and in the passages where they

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are spoken of as true, the truth referred to is merely such hypothetical truth as flows logically from a false assumption, when that assumption is, for a moment, admitted to be true.

But in case there should be any obscurity in what has been said on the inconsistency between Mr. Atkinson's general view of everything in the universe being the mere effect of law, and his belief in the power of a mesmerized brain to predict future events, a short recapitulation may be added:

Mr. Atkinson says, that acts of mind are mere chemical operations of the material particles of the brain—and therefore we ascribe to him the opinion, that the prediction of an historical event, twenty years before its occurrence, is a mere chemical action in the brain of one individual. We say we can understand that an event may be predicted even twenty years before its occurrence, provided it be the result of a general law known to the person who makes the prediction; but we maintain that historical events in general are not determined by law, which individuals understand sufficiently to deduce a true prediction from them. We say, in short, that although it may be conceivable to one who has adopted Mr. Atkinson's ideas of the chemistry of thought, that a prediction included in some previous chemical operation of a man's brain may become realized, it is impossible for

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such a person to conceive a prediction which is not included in any previous chemical act of a man's brain—to be realized at the distance, for example, of twenty years; because no conceivable laws of chemistry could connect the chemical act constituting the prediction with all the chemical acts in the multitude of human brains, constituting the circumstance on which alone the occurrence of the event alleged to have been predicted could be dependent. We, therefore, charge Mr. Atkinson with maintaining two opinions, which are utterly incompatible with each other; namely, the chemical nature of the function of the brain, and its power of chemically predicting remote events, implying a prescience of a multitude of particular detached operations. And we further affirm, that the belief in any kind of mesmeric clairvoyance, whether the adept points to events distant in place or time, is utterly inconsistent with the assumption that thought is the result of mere material action.

XVIII.

EFFECTS OF THE DOCTRINE OF NECESSITY ON MORALS.

"It is the idlest folly," says Mr. Atkinson, "to suppose that the idea of necessity would set men loose among their evil passions. But, that we

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require something to reverence and elevate our thoughts towards, is true. Knowledge gives us a more elevated poetry,—gives us the chart and laws of mind to guide us, and will exhibit to us higher objects for reverence. Is it nothing to have faith in Nature,—to have faith in knowledge, and in goodness which is the fruit of knowledge? Is it nothing to have faith in love? Is it nothing to regard Nature, in all her forms, with profound reverence, —to love truth and worship goodness, and find no place for contempt of any living thing or condition of matter? Trained in the knowledge of the laws of mind, to find it impossible to take offence:— what a soothing influence!—what a blessing this one circumstance!—what a foundation for virtue and generosity, and for peace of mind!" P. 231.

How little Mr. Atkinson can have mingled with the world at large to talk in this strain! The experience of mankind is, that in whatever age or country ideas of the necessity of human actions have unhappily prevailed, there self-restraint has disappeared, and a boundless relaxation of morals has been the result. And, how could the case be otherwise? That man is possessed of a liberty of action we have already said is recognized by every one in his own breast as a fact, however little explicable; and on the inherent sense of this fact rests man's feeling of responsibility. By his sense

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of this fact he fights against the suggestions of passion; and the more strongly he is convinced that his liberty of action is real, the more surely does he acquire a rational control over his passions and propensities. The young in particular feel the force of the fact that their will is free, and never more strongly than when a fixed resolution has yielded to a strong temptation. Do the young in general conclude the will is not free, because a resolution has failed? Not at all; all they remark is, that the temptation was stronger than was anticipated at the time when the resolution was made. Every man who is accustomed to reflect on self-knowledge and self-government, perceives at once, that though the will is equally free at the time when the resolution is made, and at the time when it fails, that the circumstances are not the same in the two cases; and that, when the resolution fails, he has not come prepared to make the requisite resistance. The practical rule he draws is, that in another like case his resolution must be previously wound up to the extent necessary to meet and overcome the temptation. Mr. Atkinson, of course, does not deny that many look before them, and are accustomed to compare the strength of their resolutions with the expected strength of the temptations to which they may be about to be exposed. But then, he ascribes this

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moral tendency in men to phrenological development,—the size of conscientiousness. But let him look around him in the world, and see how many persons owe the inferior degree of self-control they possess, as compared with men in general, to the unfortunate circumstances in which they have passed the early part of their lives. Let him look in particular to the frightful consequences, as regards future self-control, of early over-indulgence and injudicious management of children, and then say if he thinks that much misery might not have been spared if the unhappy victims had escaped the effects of the causes by which their self-control had been impaired. And we maintain, that the effect of teaching men that the monitor within them lies, — that in reality their belief in the freedom of their own will is a deception, and that all their actions, good and bad, are determined by an inevitable necessity,—must be the same in kind, though even far greater in degree, as what would be seen in the world were all men treated, when children, with that excess of indulgence which destroys their future self-control.

We have already referred to Mr. Atkinson's idea that Clairvoyance, like the fabled window exposing the secrets of every man's breast, will reveal a knowledge which will have the happiest consequences on the general conduct of men. He forgets,

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however, that if the world take him for the apostle of Truth, and believe this, they will be taught also, by his doctrine of absolute necessity, to believe that there is nothing blameable in crimes of the deepest turpitude, and that there is nothing praiseworthy in honesty, honour, or conscience.

XX.

OF A FUTURE EXISTENCE.

It has been truly said that human reason, in questions of theology, is but auxiliary to revelation. And this is true in particular of the all-important question as to a future existence, and of the doctrine of reward and punishment for the deeds done in the body. There is not the slightest reason to doubt that the idea of a future state is natural to the human mind: yet it seems plain that this idea does not take that firm and secure hold of the mind which is the case with the idea of a God. It is more easily driven from it even in times not remarkable for the progress of physical science; as we see in the example of the Sadducees. The progress of knowledge does indeed continue to afford many powerful reasons why men, by the mere light of Nature, should believe in a future

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existence. But as the opposite idea involves no absolute contradiction, and as men cannot but believe that their fellows of the animal kingdom perish, the belief in a hereafter, as founded on the mere light of Nature, may fail in some to command that high and universal assent which belongs to the points in general of man's natural belief. We have had occasion already, more than once, to remark that Mr. Atkinson does not deal in reasons or arguments — his favourite style is affirmation; we are not to expect, then, from him anything in the shape of argument against the natural evidence for a future existence. We shall quote, however, a passage from one of Miss Martineau's letters, to show the flippancy with which Mr. Atkinson has taught her to deal with this solemn topic. "Tell me, too, how you conceive that our consciousness of continued identity is accounted for, while our whole frame (every organ of the brain among the rest) is incessantly undergoing waste and renewal? And, is not the grand feature of death the cessation of this consciousness of continued identity?—And is not this enough to sever the change of death widely from every other change of structure we undergo, so that they cannot be likened but by a kind of violence? As to the fallacy of all arguments for a conscious existence after death, I agree with you entirely. I think

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that, not only is the desire taken for evidence, but the desire itself is a factitious thing,—that many (and this I know) do not desire it at all,—and that others never would, if it were not forced upon them from the hour of the awakening of the understanding. The argument of Compensation, by means of a future life, appears to me as puerile and unphilosophical as the Design-argument in regard to 'Creation' or 'the existence of things.'" P. 164. The question in the mind of man, as to the reality of a future state, is not only a question of hope, but also a question of fear; and it is a fact which cannot be disputed, that multitudes have striven in vain to persuade themselves, when their last hour was at hand, that—there is no future for man. Our decision on this point, however, is—that while the light of Nature settles beyond dispute, to men who will take the pains to understand what is reasoned about, and how it should be reasoned about, all the great allied questions; namely, the existence of an Omnipotent Intelligence, the logical immateriality of the conscious part of man, the fact of his liberty of action, and the reality of his sense of responsibility to conscience,—that the belief in a future existence is hardly sufficiently strong, clear, and universal, at least while science is but fragmentary as at present, to constitute invariably a decided principle of

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action among men in general, unless proclaimed and upheld by the authority of Revelation.

XXI.

CONCLUSION.

THUS we see that Mr. Atkinson's system rests on the assumption, that matter is eternal—an assumption wholly gratuitous. It is quite true that the human mind is so constituted as to feel it impossible to conceive the non-existence of space; but as regards matter there is no such difficulty. Man cannot form any notion of infinity of space, notwithstanding that, by the constitution of his nature, he is forced to believe that space is infinite,—what he can understand by its infinity being merely a negative, or that it is not finite. But as to matter, however widely spread, he feels no difficulty in believing that it is or may be finite. The human mind, as was remarked before, readily frames the notion of space devoid of matter; and, therefore, can conceive the possibility of a time past when matter had no existence, and of a time to be when the matter which now exists shall be annihilated.

If Mr. Atkinson's assumption—that matter is eternal—were conceded to him, though the assump-

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tion involves many inconsistences, and even contradictions, little else which he has advanced could be disputed, except what he says of clairvoyance and the prediction of future events, when these do not fall under any previously understood law.

Thus, if matter be eternal, there can be no God —that is, there cannot be any existence, whether intelligent or non-intelligent, not subject to the properties and laws of matter. If matter be eternal, everything which happens, and everything which is produced, must be the result of necessity —that is, the consequence of the operation of the original laws and properties of matter. And, therefore, if matter be eternal, everything must arise out of what is strictly termed chance—that is, by the sole operation of such properties and laws of matter as the circumstances of each particular case bring into play.

It seems possible that there may be individual minds so anomalously constituted as to feel no difficulty in such views. But it is certain that such is not the natural, sound constitution of the mind of man. For if matter be eternal, there cannot be any power in the universe; everything which exists, and everything which occurs, must originate in the various affections of the atoms and masses which compose the material universe. Again; if matter be eternal, there cannot be any

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such thing as a true cause in Nature—as everything termed a cause under this assumption can be nothing more than the expression for the law under which any event has occurred. And, therefore, under the assumption that matter is eternal, the absurd conclusion follows, that the notion of power, and the notion of cause, in the sense in which these notions are intuitively apprehended by the mind of man, are deceptions imposed upon him by the constitution of his nature.

If matter be eternal, all the striking varieties of vegetable and animal structure must be the result of chance; for where there is no room for prescience there can be no design—no plan in accordance with which the structure is worked out—for chance, as before stated, does not signify that a result has occurred without the operation of laws, but without the direction of those laws to a preconceived end. On the assumption, therefore, that matter is eternal, the notion of end or purpose is a false conception impressed on the human mind by its natural constitution.

If matter be eternal, the elementary particles of the crust of the earth which enter into the constitution of vegetable and animal species, must possess from eternity the disposition to coalesce into the various forms of all the species which exist, have existed, or are to exist; and, therefore, the

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violent supposition must be made that there is an eternal intermitting law, which, except at particular epochs, prevents any reiterated origin of such species —that is, during all the periods while none of any particular form exists, and while those which exist are perpetuated by the different eternal law of propagation by generation.

If matter be eternal, there cannot be any other source of unity of action in any part of nature, inorganic or organic, but what arises from the predominance of one law to the exclusion, more or less complete for the time, of the other eternal laws of the universe. It is hardly possible to conceive any other kind of unity of action to be the result of an eternal law of matter than that which the law of universal gravitation actually exercises over the material universe—merely as a law to which every particle of matter similarly circumstanced, whether in inorganic or organic bodies, pays the same exact obedience — the law itself being the mere expression of the fact, that every particle of matter is possessed of the same property of attracting and being attracted, so long as there is another particle of matter in the universe besides itself. But in every individual of the vegetable kingdom, and still more strikingly in every individual of the animal kingdom, and also in the whole existence of a species in both kingdoms, from the

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first individuals in which it originated, to the last in which it becomes extinct, there is a unity of multiple actions—a limitation of conditions, unknown elsewhere in Nature, which implies a suspension and modification, within the organism, of those many so-called eternal chemical laws of matter which, external to the organism, are ruling the particles of like kinds of matter on every side. Hence it is plain, that nothing but the most violent suppositions can reconcile the unity of action in organic species with the assumption that there are no laws in Nature but those arising out of the inherent properties of eternal matter.

If matter be eternal, the notion of prescience, of final cause, of design, or forethought purpose, as already said, must be so many false conceptions impressed on the human mind by its original constitution; but there cannot be, even in human art, any real design or purpose, though Mr. Atkinson insists that there may. For if every thought, word and deed, be a result of necessity, and if that necessity arise solely from the eternal laws of matter, the architect who plans a new St. Peter's, or a new St. Paul's, produces what he erroneously terms a design—it is a conception forced upon him as necessarily as the cubic form is forced upon common salt, when pure and exempt from disturbing influences it crystallizes from solution; and though

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he may suppose that he had the power to change, and actually did change in framing his plan, what had been Doric into Ionic, or Corinthian, it is wholly a mistake that his forethought had any share in the change,—it is an instance of one of the many false notions thrust upon man by the constitution of his nature.

As regards chance and design, nothing can appear to the mind more logically distinct than the case in which the dice are fairly thrown from the dice-box, and that in which the dice are loaded. The first case is what the human mind must consider as the very type of chance; the second as not less expressly the type of design. Yet if matter be eternal, there is really no logical distinction between the two cases,—a slight difference, as accidental as that which determines the two lowest faces of the dice to turn up rather than the two highest, between the arrangement of the particles in two brains, or in the same brain at different times, determines whether the dice shall be thrown fairly or used loaded.

It would be tedious to refer to all the examples of this kind that might be made use of; enough has been said to show, that on the assumption of matter being eternal, the human mind, by its original constitution, must be filled with deceptive sources of belief of such a kind as to destroy faith in any

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conclusion whatever that can be drawn from reasoning back to those so-named principles which assume the disguise of necessary and natural truths. The manifest result, then, of prosecuting such views must be a universal scepticism, or the idea that the conclusions of human science must be a jumble of contradictions,—the mere chance work of material particles drawn hither and thither, according as this or that eternal law of matter happens to influence them most at the moment.

The erroneous modes of thinking which predispose men to abandon the natural suggestions of their own minds, for the chimerical notion that matter is eternal, are chiefly two; namely, the false assumption that law is a something real in nature, and distinct from the material world; and the untenable opinion, that there is absolutely no other foundation for any part of human knowledge except the generalization of particular facts by the inductive process. Law is, in reality, a mere form of human thought—the mode in which the mind arranges the knowledge of nature acquired by observation. There is, indeed, one real law of matter, having a real existence independently of the human mind; namely, the law of universal gravitation: and it is a real part of nature, because every particle of matter in the universe is included in it, and subject to it. But the other so-called laws of

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nature are merely expressions for the detached acquisitions of man in the knowledge of portions of nature. There is no known tie which connects together all the particles of matter in the universe but the law of universal gravitation. And from the contemplation of this universal tie, an erroneous notion is apt to be drawn as to the signification of the term law, as employed by such writers as Mr. Atkinson. The idea that induction is the only source of human knowledge has taken its rise from a superficial survey of the great progress of the physical sciences in modern times, which, it must be confessed, have owed their advancement, in a great measure, to this mode of investigation. But let any one consider what a confused mass the facts determined by observation, in these very sciences, would have been without the aid of the sciences of number and quantity, which rest on a wholly different footing; namely, on the intuitive perception of truth by the human mind. And whoever takes the trouble to consider how large a portion of human knowledge rests essentially on moral evidence, will quickly make a juster estimate of the limits of inductive science than Mr. Atkinson has done.

Mr. Atkinson infers the materiality of the human mind from his wide assumption that matter is eternal; on the contrary, there are some who

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persuade themselves to think, yet not on sound grounds, that the idea of mind being the mere result of organism is reconcileable with the existence of a primary intelligent cause of all things. The idea that the action of the brain can be studied by the mere observation of the phenomena as exhibited by the pursuits and actions of men is, as we have seen, a gross mistake as to the real nature of mental philosophy. Acts of mind are logically distinct from acts of matter, and they cannot be confounded together merely by a reference to the acknowledged fact that acts of mind are dependent for their manifestation on changes in the material organism of the brain. The human mind is fully susceptible of the idea that a machine, and therefore an organ, may be necessary to apply power without creating it. The idea that machinery does not create, but actually, in a certain measure, destroys power, while it is nevertheless essential for its application to certain uses, is now familiarly understood. The steam-engine does not create the motive power, but only makes it available for use. The machinery, of whatever kind, set in motion by the alternate rise and fall of the piston of the cylinder does not increase the power developed by that motion, but diminishes it, while it applies it to the intended object. The power finally applied to this object is not produced by machinery; it is not

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produced by the steam-engine; it is produced by the alternate expansion and contraction of water as it passes into vapour and returns to the liquid state. This last is the only power which is exerted; and in so far as the final useful result is concerned, there is a proof satisfactory to the human mind that the original power has been applied and directed by an intelligent agent. The argument, that the manifestations of mind are the mere result of the material organism of the brain, is founded on the supposed necessity of connecting, in obedience to the philosophy of induction, the manifestations of mind as properties with the brain as a substance, solely because here on the one hand are the mental phenomena, and there on the other is the brain, which plainly is concerned in their production. Surely the brain is not necessarily in any different predicament from the steam-engine and the machinery to which it communicates motion. Why is it required that we should say the brain must create the mental faculties, and that it cannot be a mere piece of animal mechanism by which an interior power manifests itself, notwithstanding that it is freely admitted that neither the steam-engine nor the machinery connected with it can create power, but only convey and apply it? Will it be said that in the case of the steam-engine we discover that it is the work of man, and know,

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if those who work it are unseen, that they must be at hand to direct its operation? And is not the human mind known as an intelligence independently even of the knowledge that there is such an organ as the brain? The parallel between the case of the steam-engine and that of the brain is, according to our view, exact in every essential respect; from the inspection of the steam-engine and the use to which it is applied, we cannot but infer a power independent of the visible contrivances; and we further infer that the apparatus for the application of the power was designed by intelligence, and that there must be also intelligent persons at hand to keep it in action. The phenomena of mind, when compared with the effects of a steam-engine, are its phenomena as seen externally by an observer—that is, in accordance with the method of inductive science. The power is the conscious self; and between that conscious self and the external phenomena, there is interposed the machinery of the brain and nerves. Inductive science will not dare to ignore the existence of the conscious self, even though the evidence of that existence be not of the kind which belongs to that form of science. First, there are the effects; namely, the mental phenomena, as seen by an observer; next, the machinery of the brain—the contrivance as, we think, of an intelligent Cause; lastly, the conscious self ever present,

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at once the power and the workman, who, as occasion requires, puts the machinery in action.

In fine, there is a God! And the argument by which we reach this truth, is of the most complete character. It does not amount to a demonstration, solely because, from its nature, it cannot be made to rest on necessary intuitive truths. But it is securely based on fundamental natural truths intuitive in the human mind.

To repeat what, in fuller detail, was said before; these natural intuitive truths are—that every event must have a Cause; that every change implies the exercise of Power; and that every cause is to be measured by its effects. But in the universe the unity of the effects proves a unity in the Power exerted; their unlimited character proves the unlimited nature of the Power; and the manifest Design in these effects, proves the intelligence of the Power. In a word,—there is a God who, "in the beginning, created the heaven and the earth!"

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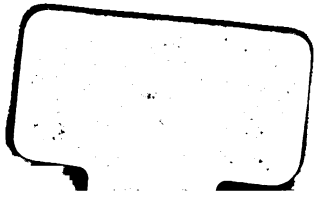

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